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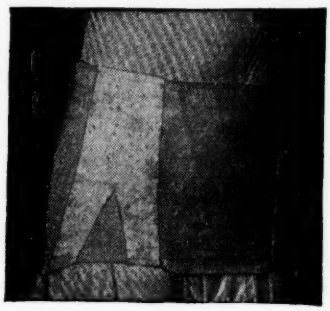

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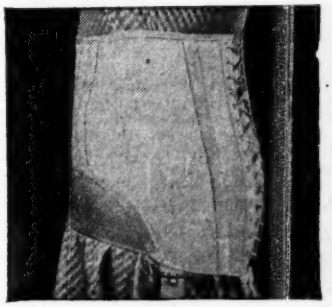

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The Massachusetts Medical Society

The next Annual Meeting of the Massachusetts Medical Society will be held in Worcester, at the Hotel Bancroft, Monday, Tuesday and Wednesday, June 4-5-6, 1934.

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The New England
Journal of Medicine

VOLUME 210 APRIL 12, 1934 NUMBER 15

HERNIA OF THE DIAPHRAGM

Esophageal Type In Adults

BY PHILEMON E. TRUESDALE, M.D.*

HERNIA of the stomach through the esophageal hiatus occurring in adults is now recognized not infrequently by internists, gastroenterologists and roentgenologists. As a rule the history presents nothing characteristic. These patients complain of indigestion. Distress comes on soon after deglutition and is referred to a point high in the epigastrium or in the substernal region. There may be attacks characterized by pain which radiates to the shoulder, the axilla, or the back. Pain may encircle the thorax, appear in the form of precordial distress, with tachycardia, dyspnea, nausea, and vomiting. Many of these patients have secondary anemia. A. V. Bock has reported a series of this type.

Diseases with which this form of hernia is commonly confused are cholelithiasis, peptic ulcer, angina pectoris, and eosphageal stricture.

Acute attacks of pain are due to distention of that portion of the stomach which is above the enlarged esophageal opening of the diaphragm.

The following is the report of a case of this type. Dr. Samuel Morein, the patient's physician, submitted this carefully taken history which we have embodied in the hospital record.

E. C., housewife, aged 48 years, was admitted to the Truesdale Hospital September 9, 1933. She complained of indigestion of about twenty years' duration. This was manifested chiefly by a bloated and crowded feeling in the epigastrium and the lower left chest, and palpitation. Associated with these was a low substernal pain which was gnawing in character and almost constant. These symptoms were mild at first, but have progressively become more severe in character of late years.

Immediately after deglutition the distress becomes more noticeable, and often she has to leave the table during her meals and walk around for relief. Alkalis, laxatives, or enemas have no effect in relieving her distress. Green vegetables, such as celery and lettuce, may bring on a severe attack. She has had attacks, manifested by symptoms varying in severity; some were mild, while others were severe. Attacks have come on during the night, rousing her from a sound sleep. At times she has induced vomiting to obtain relief from her distress. Some of her pain radiates to the back, left side, left shoulder and down the arm. She also has had attacks that were accompanied by marked epigastric pain radiating to the back, bloating, belching, nausea, and vomiting. On many occasions she was obliged to call a physician and have morphia administered hypodermically to obtain relief from her distress. She experiences palpitation and some dyspnea after the ingestion of a heavy meal or if she retires soon after overeating. She has been constipated for many years, but manages to have good movements by taking mild laxatives daily. On several occasions she noticed blood in her vomitus, varying in quantity from streaks to a few teaspoonfuls; and many times she observed that her stools were rather dark grayish in color. She smoked cigarettes to excess. Her nervous system was fairly stable for one who has a constant gastric disturbance.

Past History: She has had several abdominal operations. In 1914 she had a hysterectomy; also one ovary and the appendix were removed at the same time. During her convalescence she had an attack of pleurisy. In 1926 or 1927 she had a cystic tumor removed from her pelvis. In 1932 she had a tonsillectomy on account of getting frequent colds. She had been treated by many doctors for various conditions. At times, gall-bladder disease was suspected; also myocarditis, anemia, and migraine. She had had treatment with temporary relief. About four years ago she was under observation in a very good clinic, at which time a complete x-ray study was made of her chest and gastro-intestinal tract. She was then told she was suffering from colitis. She gave no history of any accidental injuries.

Family History: She has two children, aged 24 and 21, living and in good health. She had no miscarriages. Her husband is living and well. Her family history is otherwise irrelevant.

Physical examination revealed a rather stocky, well-developed and nourished woman of 48; height, five feet; weight, 141; and somewhat anemic in appearance. Her hemoglobin was 70 to 75 per cent, and the red blood count was 4,000,000. Her heart and lungs appeared normal, except that during the examination splashing sounds were elicited in the central and lower left chest. She was definitely tender in the epigastrium. There were several abdominal scars from her previous operations. No congenital abnormality was noted. Rectal examinations revealed several hemorrhoids. Her blood pressure was 140/80. The blood Wassermann was negative. Her urine was negative. The basal metabolic rate was —13 per cent. Six stools were examined and they were always strongly positive for blood, by both the guaiac and benzidin tests.

When the patient consulted Dr. Samuel Morein of Providence, R. I., a complete roentgenographic study of the chest and abdomen was made. Our examinations have corroborated his in all details.

Fluoroscopic examination of her chest (figure 1), while the patient was standing, revealed a shadow, with most of it overlapped by the heart shadow. The heart and lungs appeared normal. After the administration of a barium meal, with the patient

*Truesdale, Philemon E. — Surgeon, Truesdale Clinic, Fall River, Massachusetts. For record and address of author see "This Week's Issue," page 817.

standing, this abnormal shadow was found to be a diaphragmatic hernia of the esophageal orifice type, involving one-third of the stomach. The barium meal was seen progressing down into the lower esophagus, entering the cardiac orifice of the stomach rather slowly, and then progressing upward and filling the upper chamber of the stomach, which was contained in the hernia above the diaphragm. It was also noted that some of the barium was percolating slowly through a constricted portion of the stomach, into the larger lower portion below the diaphragm. This hernia was incarcerated, as there was no reduction by changing the position of the patient, by manipulation, or with deep inspiration. The stomach was otherwise normal. The duodenum appeared normal.

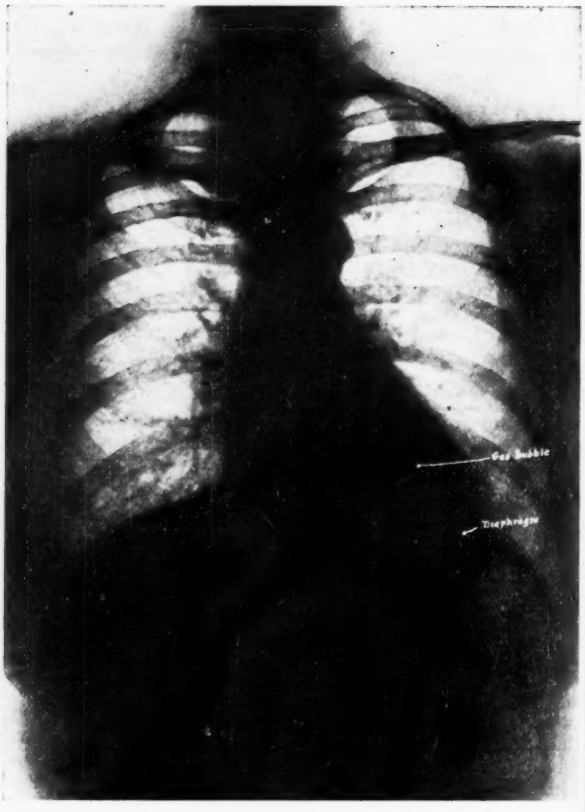


FIGURE 1.

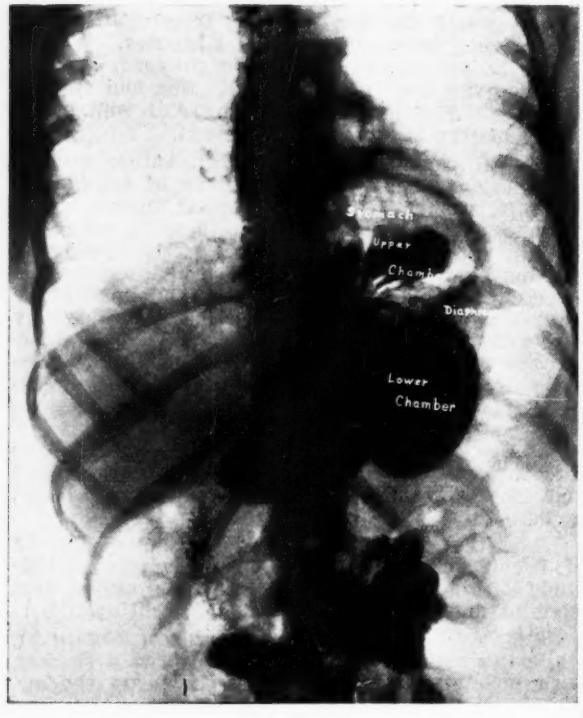


FIGURE 2. Preoperative roentgenogram.

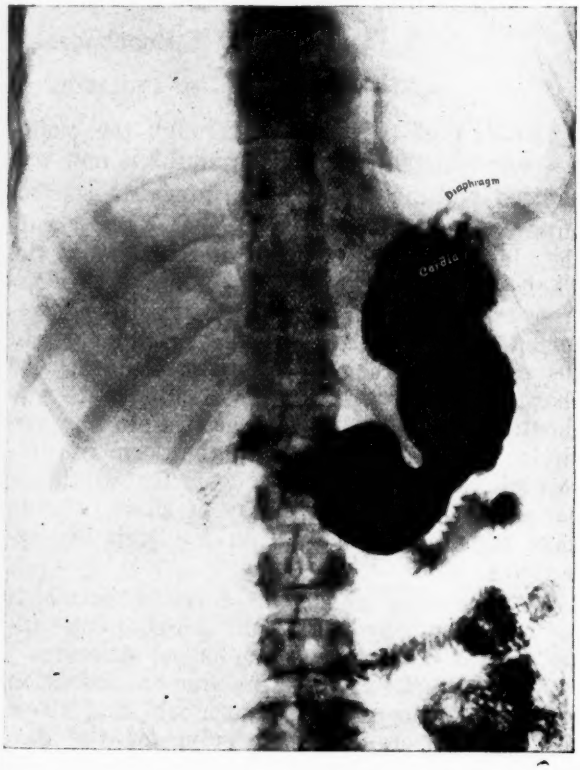


FIGURE 3. Postoperative film.

At six hours there was a minute residue of barium left in the hernia. The small intestines and colon appeared normal. The Graham test revealed a normal functioning gall-bladder with no evidence of calculi.

The findings in the examination were made clear to the patient and a trial period of medical treatment adopted. This consisted essentially of a dietary régime with antispasmodics, sedatives, and some form of iron medication. During the period of three months she improved slightly but complained of living a life of very limited activity and of general weakness; also of a feeling at times of faintness and dizziness on standing. She also stated that even talking for a while became an exertion. "Everything seemed to be an effort." She felt much better when she abstained from food or when she was hungry.

Her weight on August 17, 1933 was 135 lbs., a loss of 6 lbs. in two months. Stool examination on a meat-free diet gave a 4 plus guaiac reaction. Her hemoglobin was 70 per cent, red blood corpuscles 3,670,000, and white corpuscles 8,000.

It was therefore decided that surgical intervention would be the appropriate treatment in this case.

The impression of the internist, Dr. J. A. Mc-

Adams, who examined this patient in our clinic was as follows: "I am certain that I could not have made a diagnosis of diaphragmatic hernia in this case from the physical signs alone. While these sounds are compatible with a protrusion of a hollow viscus through an opening in the diaphragm, the history seems to me to arouse more suspicion than do the physical signs. To be sure, the signs at the base of the left pleural cavity indicate definitely less aeration of the lung than at the right base; transmission of voice sounds is diminished at the left base. On percussion there is very little difference between the two sides, possibly more of a 'hyporesonance' over the mid-region of the left chest posteriorly above the herniated stomach. The heart is not perceptibly displaced. There is a higher level of hyperresonance on the chest wall anteriorly, although not higher than frequently observed in the presence of a distended stomach. Tactile fremitus appears to be but slightly different on the two sides. The gaseous sounds and gurgling are not sufficiently marked to be of any particular help."

This part of the record is reported to show that chances of failure to detect this type of diaphragmatic hernia are real even when the examiner is proficient and careful. The combination of history and physical signs was sufficient to "arouse suspicion". The evidence must be sufficient to arouse suspicion in the mind of the internist or gastroenterologist in order that he may direct the roentgenologist to focus his attention upon the cardiac portions of the esophagus and stomach. Otherwise, hernia might exist and escape recognition even in the hands of an expert roentgenologist. The late Dr. L. B. Morrison[1] of Boston reported a large series of these cases which he had discovered, and described a valuable method of x-ray examination whenever the condition was suspected.

We operated upon this patient September 11th. Under positive pressure gas oxygen anesthesia, the left thoracic cage was opened by half a rectangle incision over the 6th and 7th ribs extending from the left costal cartilage to the posterior angle of the rib. The cardiac portion of the stomach was found protruding upwards through the esophageal aperture, the long diameter of which measured approximately 12 cm. The stomach was covered by a thin membranous sac, apparently adherent, to form a hernia vera. This bulging hollow viscus was adherent to the overlying lung, the left surface of the pericardium and the margin of the opening in the diaphragm.

Owing to the position of the left inferior azygos minor vein with its branches, considerable difficulty was met in separating the collar of fibrous bands attaching the stomach to the lung, pericardium and diaphragm. After this troublesome complication was overcome, the stomach was reduced to its normal position below the diaphragm. The large aperture was finally closed by nine or ten interrupted sutures of silk. The opening in the chest wall was then closed by mass interrupted sutures of silver wire.

The early convalescence was accompanied by considerable pain apparently in the thoracotomy wound. The temperature did not rise above 100 degrees. The pulse remained at 120 for three days, then gradually fell to 80. After the fourth day the patient remained on house diet without discomfort. She was discharged October 14th.

Two cases of this type of hernia have been published by the author in the *New England Journal of Medicine* under the dates of June 25, 1931 and September 1, 1932 respectively.

While operative treatment offers the only means of cure of a diaphragmatic hernia of any type, surgery is not indicated in this particular form until medical treatment has had a fair trial. Operation should not be undertaken upon patients who ordinarily would be considered Class B risks.

It requires careful discrimination to determine whether in a given case the symptoms are due to the diaphragmatic hernia. Before deciding to proceed surgically all other causes of the symptoms should be eliminated. It is to be borne in mind also that this form of hernia has been found at autopsy where no history suggestive of its existence during life had been obtained.

It is realized, too, that considerable skepticism exists in the minds of many internists and surgeons about the wisdom of undertaking the transthoracic operations for repair of esophageal hernia when it is discovered at or beyond the meridian of life. Time and experience will determine the issue. Thus far we have operated upon six patients with this type of hernia. No deaths have occurred among this group. The series is too small to warrant deductions pertaining to mortality, cure of the condition or technic of the operation itself. Each case appears to be of sufficient significance to record individually. In subsequent reports of the remaining three cases of this series we may feel sufficiently justified to dwell at greater length upon the symptomatology, etiology of pain, technic in the operation and incidentally the important services rendered by the internist, the roentgenologist, the anesthetist, and operating room assistants, the combination of whose support has made it possible for a surgeon to accomplish a difficult task.

REFERENCES

1 Morrison, L. B.: Diaphragmatic hernia of the fundus of stomach through the esophageal hiatus. Report of 41 cases. J. A. M. A. 84: 161 (Jan. 17) 1925.

2 Bock, A. V.; Dulin, J. W., and Brooke, P. A.: Diaphragmatic hernia and secondary anaemia. New Eng. J. Med. 209: 615 (Sept. 28) 1933.

HEREDITARY ECTODERMAL DYSPLASIA OF THE ANHIDROTIC TYPE, WITH CASE REPORT

BY J. MARK HIEBERT, M.D.,* AND JOSEPH GARLAND, M.D.*

HEREDITARY ectodermal dysplasia of the anhidrotic type was first described by Thurman[1] in England in 1848. Detailed and elaborate descriptions are given by Weech[2] who gave the condition its name. In his report Weech reviews the literature of nine cases, adding two more to the list. Smith[3], more recently, has reviewed the literature completely, including a thorough description of the symptomatology, etiology and diagnosis of the condition, and reports the sixteenth case.

Various forms of ectodermal defects have been noted. Clouston[4] analyzed one hundred and nineteen cases occurring in six generations of one family, none, however, being of the anhidrotic type. Goeckermann[5] first recognized a group of cases which he called "high grade congenital ectodermal defect" in which there is not only a congenital absence of teeth and a hypotrichosis, but also a total absence of sweat glands and an almost total absence of sebaceous glands.

MacKee and Andrews[6] described the clinical characteristics of this condition as follows: congenital absence of sweat glands, absence of pilosebaceous apparatus over most of the body, marked dental aplasia, depressed nasal bridge, atrophic rhinitis, prominent supra-orbital ridge, thick protrusive lips, thin, glossy, smooth, dry skin, papular lesions on the face and heat intolerance.

The following case represents the anhidrotic type of hereditary ectodermal dysplasia.

J. B., male, aged five years and ten months, was referred to the Children's Medical Department of the Massachusetts General Hospital, October 30, 1933, from the Forsyth Dental Infirmary, because of abnormal dentition. He is the oldest of three children, the two younger being apparently normal.

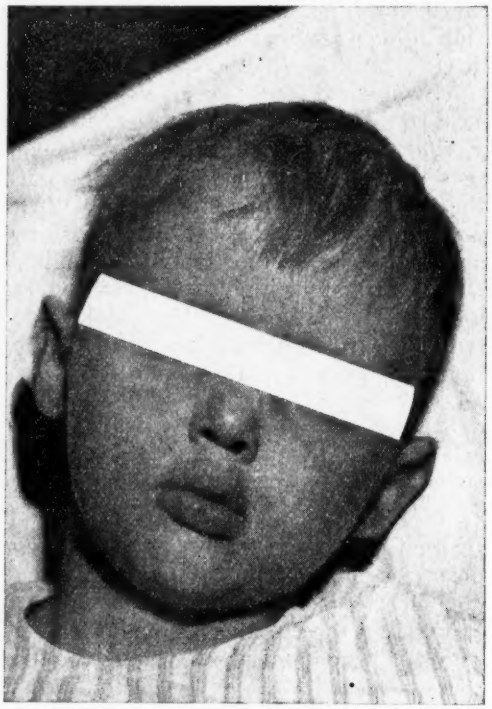
Family History: The father, aged 32, and the mother, aged 29, are living and well. A paternal grand-uncle is said to have been edentulous until the age of five, after which a normal set of permanent teeth developed. No similar anomalies have been noted in any other member of the family.

Past History: The patient was normally delivered at term, weighing seven pounds. Aside from a pale skin, no abnormalities were noted at birth, although his cry was never more than a whine. He was nursed from the beginning, with supplementary feedings started at three months.

Developmental: He held his head up at four months, sat alone at eight months and walked at seventeen months. The first tooth was cut at eleven months and now, at the age of five years and ten months, he has in the mandible two canines, and in the maxilla one incisor, two canines and two molars; all of the teeth are tusk-shaped and widely spaced. In spite of this imperfect dentition he masticates his food in a fairly effective manner.

Present Condition: The patient never perspires, even in the hottest weather, and consequently suffers extreme discomfort at times in the summer. His hair has always been sparse and of exceedingly fine texture, with a tendency to break, and with scattered areas of alopecia, especially in the right parietal region. The palms and soles are always dry and scaly. Since birth he has had a chronic rhinitis. His voice has always been hoarse and he has frequent attacks of complete aphonia.

Physical Examination: Examination shows a well-developed, normally nourished boy. The height



is 42½ inches, the weight 42 pounds. The skin is dry, hot and parchment-like to the touch, especially over the shins and thighs. There is no evidence of any perspiration in the axillae or in the folds of the skin.

The head is normally developed with a circumference of twenty inches. The supra-orbital ridges are somewhat prominent. The auricles show no abnormalities; the canals are plugged with a dry, crusty cerumen. The eyebrows are absent, although a few scattered eye lashes are present. The nose is wide and the bridge low. The turbinates and mucous membranes are pale with a moderate amount of yellowish discharge present. The lips are thick, everted, dry and wrinkled. The buccal membranes and pharynx appear normal.

The most striking feature is the peculiar teeth,

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there being in the mandible two canines only, and in the maxilla one incisor, two canines and two molars, all of a peg-like, conical shape.

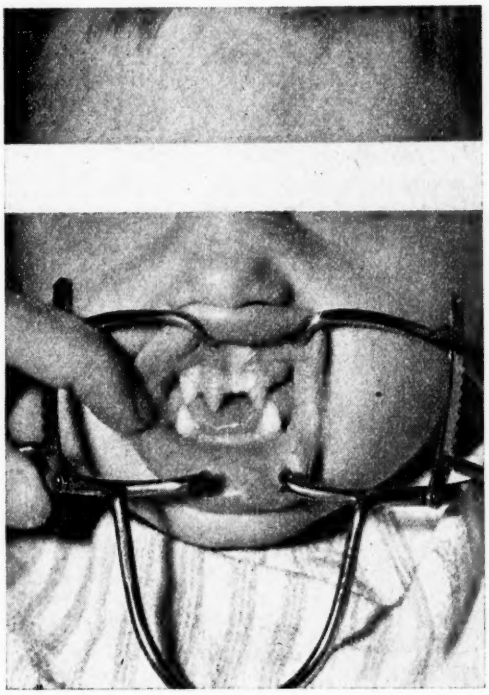
Examination of the chest and abdomen reveals no abnormalities. The nipples are present. The genitals, extremities and nails appear normal.

Mentally the boy responds as a normal, happy, alert child.

Laboratory Data.

Urine: specific gravity 1.020; reaction acid; albumen negative; sugar negative; sediment no cells or casts.

Red blood cells, 4,900,000; white blood cells, 6,200; hemoglobin, 75 per cent.



Blood smear: neutrophiles 65 per cent; lymphocytes 30 per cent; monocytes 4 per cent; basophiles 1 per cent; no variations in staining reactions; no stippling.

Hinton, negative.

Intradermal tuberculin, 1-1000, negative.

Basal metabolic rate; average plus 8 per cent.

Fasting blood sugar, 97 mgm. per 100 cc; cholesterol, 154 mgm. per 100 cc. serum calcium, 11.45 and serum phosphorus, 4.48 mgm. per 100 cc.

Skin temperatures were taken as described by Talbot[7].

	Patient	Standard
Average temperature of face	35.2 C.	33.2 C.
" " " trunk	37.1	35.5
" " " extremities	35.4	33.0
" rectal temperature	37.8	

The skin temperatures of our patient, therefore, equalled those of normal children with rectal temperatures of 40 C. or 104.5 F. (Skin Temperatures of Children, Table No. 40).

A specimen of skin taken from the back between the shoulder blades was examined in a series of

Section of skin from patient's back showing absence of hair follicles, sweat or sebaceous glands.

sections. No hair follicles, sweat glands or sebaceous glands were found.

X-rays revealed four unerupted teeth in the mandible and two in the maxilla.

REFERENCES

1 Thurman: Quoted by J. Smith.
2 Weech, A. A.: Hereditary ectodermal dysplasia. Am. J. Dis. Child. 37: 766 (April) 1929.
3 Smith, Jean: Hereditary ectodermal dysplasia. Arch. Dis. Child. 4: 215 (August) 1929.
4 Clouston, H. R.: A hereditary ectodermal dysplasia. Canad. M. A. J. 21: 18 (July) 1929.
5 Goeckermann, W. N.: Congenital ectodermal defect. Arch. Dermat. & Syph. 1: 396, 1920.
6 MacKee, G. M., and Andrews, G. C.: Congenital ectodermal defect. Arch. Dermat. & Syph. 10: 673, 1924.
7 Talbot, Fritz B.: Skin temperatures of children. Am. J. Dis. Child. 42: 965 (October) 1931.

HYDRONEPHROSIS DUE TO SUBEPITHELIAL FIBROSIS: TREATMENT BY AN ADAPTATION OF RAMMSTEDT'S TECHNIQUE*

BY SAMUEL N. VOSE, M.D.†

IN a recent issue of the *Urologic and Cutaneous Review* (October, 1933), Dr. David M. Davis reports a case in which he employed in the treatment of ureteral stricture associated with calculus and periureteral abscess, a technique based upon the principle underlying the Rammstedt operation for pylorospasm. A review of the literature indicates that he is the first to report a case in which such a method has been adapted to obstruction in the urinary tract. It is interesting that, in the two cases which are here reported, a similar procedure based on the same principle was applied for the relief of hydronephrosis due to subepithelial fibrosis at the ureteropelvic junction.

CASE REPORTS

CASE I, a white male, aged 22, was admitted to the Urological Service of the Massachusetts Memorial Hospitals on February 17, 1931 for 24 hours' observation and on March 16, 1931 for operation.

Chief Complaint: Frequency of urination.

Family and Past History: Not remarkable excepting gonorrhea eight months previously for which he was treated in the Out-Patient Clinic. Urethral and prostatic smears were negative for pus and organisms on several occasions after November 22, 1930.

Present Illness: The present complaint has existed for several months and has been accompanied by intermittent pain in the right loin. Urinalysis on three occasions prior to admission showed microscopic hematuria and the patient was referred to the hospital for complete urological investigation.

On admission, regional examination revealed no significant abnormalities. The abdominal examination showed no tenderness at any point. Neither kidney palpable. External genitalia normal. Urinalysis: Specific Gravity 1.027. No albumen, sugar or acetone. Sediment showed a rare pus cell and no blood. Blood Examination: Leucocytes 9,600 per cubic mm., hemoglobin 80%, N. P. N. 30 and Sugar 74 mgm. per 100 cc. of blood. Wassermann and Kahn tests negative.

Cystoscopy: February 17, 1931. A large caliber stricture was found in the bulbous urethra. Bladder capacity and tolerance were normal. No irregularities of the bladder neck. Slight inflammation of the trigone. Ureteral orifices normal. No obstruction to the passage of a No. 5 ureteral catheter to each kidney pelvis. Stasis of 3 cc. on the right side and 7 cc. on the left. Divided function (P. S. P.) test showed 3 per cent on the right side and 2 per cent on the left in 15 minutes. Pyelogram of the left side was unsatisfactory owing to incomplete filling, but was checked later by intravenous pyelograms. No definite pathology was demonstrated in the left kidney. The right pyelogram showed some dilatation of the pelvis and calyces with a narrowing at the ureteropelvic junction (fig. 1-A). Urine from the bladder and each kidney was negative for pus or organisms and culture showed no growth.

Operation: March 18, 1931. The right kidney and upper ureter were exposed by the usual loin incision. Rather more than normal adhesions were found around the kidney pelvis and ureter. A definite narrowing existed at the ureteropelvic junction which seemed to be due to a narrow area of fibrosis in the ureteral wall and surrounding the ureter. It seemed that the division of this fibrous band without incising the mucosa, as in the classical operations, might relieve the stenosis. A longitudinal incision one-half inch long was made in the wall of the ureter down to but not through the mucosa and as the edges drew apart, the mucosa could be seen bulging into the incision. After this incision was made, the width of the ureter at this point became practically the same as that of the ureter below. Neither ureter nor pelvis was opened. The operative wound was closed without drainage. Convalescence was uneventful and the wound firmly healed on April 2. On April 3, the ureter was dilated with bougies and the patient was discharged from the hospital on the sixteenth postoperative day. He still had some frequency, but was relieved of pain in the loin.

FIGURE I-A.

Ureteral bougies were passed on August 18 and again on October 20, 1931. At this time, 6 cc. of urine free from pus or organisms was aspirated from the right kidney pelvis. A pyelogram was made (fig. I-B). The patient stated that he was free from symptoms and failed to report for further check-up.

Comment: It is difficult to evaluate the importance of the operation in the relief of the patient's

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symptoms, as the frequency and microscopic hematuria may well have been caused by the pathology in the lower urinary tract, and the pain in the loin might have been relieved by freeing the adhesions around the kidney. The principal evidence of the efficacy of the procedure employed is the altered appearance of the ureteropelvic junction as shown in the pyelograms.

CASE II, a white male, aged 17, was admitted to the Urological Service of the Massachusetts Memorial Hospitals on September 6, 1932.

Chief Complaint: Pain in the left loin and left upper quadrant.

FIGURE I-B.

Family and Past History: Not significant.

Present Illness: Began about one year previously with a dull aching pain below the left costal margin. Attacks of pain have been intermittent, recurring at monthly intervals and lasting several days. The pain has been severe enough to require morphine. There have been no associated gastro-intestinal or genitourinary disturbances.

On admission, regional examination reveals no significant pathology. Abdomen soft and pliable. Slight tenderness in the left upper quadrant and in the left loin. External genitalia normal. Urinalysis: Specific Gravity 1.009, no albumen, sugar or acetone. Sediment showed no abnormal elements. Blood examination: Leucocytes 8,900, hemoglobin 80%, N.P.N. 32 and sugar 74 mgm. per 100 cc., Wassermann and Kahn tests negative.

Cystoscopy: September 10, 1932. Bladder capacity and tolerance normal. Bladder mucosa was normal throughout as were the ureteral orifices. A No. 5 catheter was passed to the right kidney pelvis without obstruction. Two cc. of clear urine aspirated. A No. 4 catheter was passed up the left ureter to the kidney pelvis and 200 cc. of clear urine aspirated. Pyelograms were made. On the right side there was slight dilatation of the kidney pelvis with normal calyces. The kidney was low and there was a kink in the upper ureter. The left pyelogram is shown in figure II-A, a large hydronephrosis, and the ureter not dilated below.

In view of the possibility of a nephrectomy being necessary on the left side, it was considered advisable to do a nephropexy on the right side. This was performed on September 13, 1932. Little pathology was found at this operation.

Operation: September 30, 1932. Under spinal novocain anesthesia, the left kidney and upper ureter were exposed by the usual loin incision. Examination of the kidney showed considerable apparently healthy kidney tissue. The pelvis was greatly dilated. The upper ureter was attached to the kidney pelvis by fascial bands and across the lower part of the pelvis but well away from the ureteropelvic junction and the ureter was an aberrant blood vessel. This apparently was not a factor in the obstruction. The ureter was freed from the pelvis by dividing the fascial bands. At the junction of the pelvis and ureter was found a narrowing due to an area of fibrous tissue surrounding the ureter. The pelvis was incised and the fluid evacuated. A bougie was passed down the ureter with some difficulty. On withdrawal, it was firmly grasped by the ureter at the narrow portion. A longitudinal incision about 3/8″ long was made in the wall of the ureter through the fibrous area and down to but not through the mucosa, following which a No. 12 soft rubber catheter could be easily passed down into the ureter. The redundant wall of the pelvis was resected by the removal of an elliptical section from the inferior surface, the incisions starting about ½″ above the ureteropelvic junction and extending nearly up to the kidney substance. The open end of the rubber catheter which had been

FIGURE II-A.

passed down the ureter was brought out through a nephrostomy opening for constant drainage of the pelvis. The cut edges of the pelvic wall were approximated by two layers of O chromic catgut. The perirenal area was drained by rubber tissue and the operative wound closed by layer sutures.

Convalescence was uneventful. The catheter which served as a nephrostomy tube as well as a splint for the ureter was removed on the fourteenth postoperative day and for 48 hours there was slight leakage of urine through the sinus, after which it remained dry. The patient was discharged on the twentieth postoperative day with both wounds firmly healed, voiding normally and free from pain.

He returned to the hospital for dilatation at intervals of several months and on April 14, 1933, ureter catheterization revealed in the left kidney pelvis a residuum of 10 cc. of clear urine free from pus and organisms. He had been free from all symptoms and had gained 25 pounds in weight since his operation.

FIGURE II-B.

On October 21, 1933, about one year after operation, the left ureter was dilated by bougies and a residuum of 15 cc. of clear urine found in the left kidney pelvis. Indigo-carmine injected intravenously appeared on each side in good concentration in five minutes. A pyelogram made on that date is shown in figure II-B. The patient continues to be free from all symptoms.

Certain experimental work, notably that of Hinman[1], has tended to cast some doubt upon the advisability of attempting conservative operations in cases of unilateral hydronephrosis. The results in the second case reported are in line with an increasing amount of clinical evidence indicating that considerable functional regeneration may be expected even in well-advanced cases *provided the obstruction be completely relieved.*

There is considerable difference of opinion as to the relative importance of several etiological factors in the causation of so-called primary hydronephrosis. Disregarding the secondary effects of anemia and infection, and considering only the primary obstruction, there appear to be good reasons for agreeing with Geraghty and Frontz[2] that many cases originate from inflammatory processes in the ureteral wall, and that in certain instances, at least, kinks, abnormal implantations and obstructing blood vessels may be secondary to the distorted anatomy resulting from dilatation of the pelvis. Walters[3], however, places subepithelial fibrosis third in a list of causes of obstruction. Whether the obstruction be congenital or acquired (inflammatory), there exist certain cases in which the mucous membrane is little, if any, affected. In such cases, an extramucosal division of the fibrous constriction, combined or not with such measures as resection of the renal pelvis or nephrostomy, as indicated in the individual case, may result in the complete relief of the obstruction so essential to the success of conservative operations.

REFERENCES

1 Hinman, F.: Significance of renal counterbalance in surgical treatment of renal lesions. J. A. M. A. 94:1207 (April 19) 1930.

2 Geraghty, J. T., and Frontz, W. A.: Primary hydronephrosis. J. Urol. 2:161 (June) 1918.

3 Walters, Waltman: Resections of renal pelvis and other plastic operations for hydronephrosis. Surg. Gynec. Obst. 55:508 (Oct.) 1932.

LOCAL ANESTHESIA IN OBSTETRICS

BY CORNELIUS T. O'CONNOR, M.D.*

ARTHUR Hertzler[1] remarks, "Many of the current writings on local anesthesia bear very obviously, the mark of having undergone a new experience, which they are anxious to proclaim to the world. It reminds one of the young swain who first kisses his sweetheart in the moonlight. He thinks he has discovered something new and wholly new. He has and he hasn't, it depends on the point of view." Having followed the literature on the subject of local anesthesia in obstetrics, having read the standard texts and monographs and having talked with colleagues as to the methods of anesthesia used by them, the writer is well aware that he has no new method, but he feels also that there is a definite field in obstetrics for its use and that it deserves more consideration than is given it. The use of various drugs particularly the barbiturate preparations, has been exhaustively, even exhaustingly discussed in the literature.

Spinal anesthesia has been the subject of many papers, and of course the tetrad of general anesthetics, ether, chloroform, ethylene and nitrous oxid have been dealt with adequately. But when the subject of infiltration or nerve block local anesthesia is considered there seems to be both apathy on the part of obstetricians in their daily practice, and a paucity of articles in the literature. J. W. Williams in his text in the sixth edition states that he has had no experience with the method. He says that Gellhorn

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is enthusiastic concerning its use in the second stage of labor in conjunction with "twilight sleep". According to Williams, Gellhorn's method is direct infiltration of the perineum and the levator muscles with one half of one per cent novocaine solution. The text of Shears, Jellett and Madill, and Solomon's revision of Tweedy's manual contain no reference to the use of novocaine or similar preparations in normal or forceps delivery. Joseph L. Baer[2] says in speaking of the conduct of normal labor, "Infiltration anesthesia of the cervix and perineal body has not won general approbation and is not to be recommended." Ralph M. Tovell[3] says, "Sacral block is to be generally preferred over less precise and less satisfactory methods such as infiltration of the perineum or nerve block of the inferior pudendal and inferior hemorrhoidal nerve." By sacral block he means sacral anesthesia, injecting about one ounce of one per cent novocaine solution through the sacral hiatus, plus transsacral (sacral foramina) injection. J. B. DeLee alone, is enthusiastic about the use of local anesthesia. In the sixth edition of his textbook he says, "Wherever in obstetrics as in surgery, it is possible to operate under a local novocaine infiltration or nerve blocking this should be done, since unquestionably the dangers are more than halved by the avoidance of general anesthesia. In the Chicago Lying-In Hospital, in the home service of the Chicago Maternity Center, central episiotomy and repairs are usually done under 'local'."

In 1916, Robert W. King[4] in an excellent paper to which little attention seems to have been paid, said, "While marked advancement has been made in the realm of anesthesia, as applied to the local and general blocking of the sensory nerves of various parts of the body, it is strange that so little attention has been paid to applying these methods in the sensory innervation of the female perineum. . . . The literature of this subject is remarkable because of its scarcity; the subject apparently has not engaged the attention of American investigators and practically the only work of importance that has come to my notice, has been carried on in Germany." After carefully working out the anatomy and nerve supply of this region, King reported his results in nearly one hundred injections. His conclusions were that lacerations were diminished; that anesthesia began in a few minutes and lasted for two to four hours; that repair was greatly facilitated, and that the general practitioner can safely and easily apply the method at the bedside.

D. Rose[5] proposed a nerve block of the abdomen for relief of pain during the first stage of labor and direct infiltration of the perineum for the second stage of labor. He was particularly interested in the use of novocaine for the first stage of labor. Abdominal nerve block is unnecessary, as various safe drugs exist for the production of analgesia during the first stage of labor. He infiltrated the perineum and labia instead of doing a block of the perineal nerve.

T. Torland[6] states that he has used local anesthesia of the perineum, for the past eight years in practically all primiparae and many multiparae, using a perineal nerve block. He has injected novocaine in several hundred cases without complications or untoward results. Some form of twilight sleep was used during the first stage of labor. He feels that ether or gas anesthesia can usually be reduced to a minimum and can frequently be omitted. In conclusion he states, "When to this can be added the absolute assurance that this perineal anesthesia has no remote results, has no influence on the uterine contraction, has no higher incidence of infection and no difference in wound healing, and that it can, without much experience, be used by anyone in the home as well as in hospitals, it seems that we have here a method of considerable importance which merits further investigation and more extensive use."

DeLee[7] unqualifiedly supports this view.

M. Oku[8] used local anesthesia in one hundred cases. He believes that there are no contraindications to this form of anesthesia except for purulent inflammation at the points of injection and their neighborhood. He believes that the procedure is simple and harmless, that it removes all pain, relaxes the muscles, that the second stage is often shortened; that the number of episiotomies and lacerations is diminished; that forceps operations and breech extractions may be done under this anesthesia, and finally that no disturbance in the labor pains, the separation of the placenta or the contractions of the uterus was observed.

Abdurel[9] uses nupercaine (percaine). He believes that it produces a more prolonged anesthesia than does novocaine. A. Reist[10] does a pudendal nerve block using nupercaine "Ciba" (one to two thousand), using about 50 cc. for each pudendal nerve. Of thirty cases, the anesthesia was very good in twenty-seven and partial in three. He prefers nupercaine to novocaine because the anesthesia in the case of the former lasted as long as six hours and nearly always four hours. J. P. Greenhill[18] uses infiltration anesthesia for spontaneous and low forceps deliveries. His technique is as follows, ". . . . . the needle is inserted about midway down one labium majus and the solution is injected all along the edge of the labium then across the fourchette and up the edge of the other labium majus. It is usually necessary to remove and reinsert the needle a few times, but one must always reinsert the needle in an area which has already been infiltrated. With Allis forceps, slight traction is then made on the infiltrated fourchette and solution is injected in the layer between the vaginal wall and the rectum not only in the midline, but also well out

to the sides in the shape of a fan. The needle is inserted about 6 cm. in each direction and about 30 cc. of the solution is distributed in this space. Then the needle is inserted deeply through the fascia over one levator ani muscle and about 10 cc. of the solution is injected into the muscle and the fascia. This is repeated on the other side. Within a few minutes, examination will reveal relaxation of the entire perineal floor and gaping of the vaginal outlet. Because of this, the patients do not experience the forcible stretching of the perineum which most primiparae do. The second stage is shortened if there is no interference with the uterine contractions. The head passes through the outlet without any pain. If there is breech presentation, spontaneous delivery may be accomplished or manual aid rendered with little discomfort. In some cases labor pains slow down after the infiltration and it is necessary to apply low forceps or give two or three minims of pituitary extract. Perineal lacerations are reduced in number and size and there is less need for episiotomy. If a laceration occurs it may readily be sutured without the addition of any anesthetic."

There is then a striking unanimity of opinion as to the advantages of local anesthesia in obstetrics, among those who have used the method. What then is the reason for the indifference of obstetricians to the use of local anesthesia? It is possible that the explanation lies in the following: (1) Some surgeons will never be interested in local anesthesia, nor will ever use it successfully because they are temperamentally not adapted to its use. Deliberation, anatomical knowledge, patience, and frequently gentleness, are often required. (2) Many obstetricians have not been interested in its use because they have not realized that excellent muscular relaxation will be produced if a successful nerve block has been done. (3) Possibly when local anesthesia is mentioned, in many obstetricians the mental phantasm arises of a massive infiltration of the levators and the perineal body rather than a more precise nerve block of the pudendal nerve. (4) The knowledge that very apprehensive individuals are not good subjects for local anesthesia. It is to be remembered that, with the use of the various sedatives and hypnotics in the first stage of labor, this is no longer a factor. (5) A fear of a reaction from the amount of novocaine used. There need be no reaction if any of the barbiturate preparations are used before the injection. (6) Possibly a persistence of the old notion that pregnant women tolerate general anesthesia very well. J. T. Wallace[11] found on the obstetrical service of the Brooklyn Hospital during 1932 three cases of intrapartum and postpartum collapse due to aspiration during or following ether anesthesia. The writer recently had a case of alarming symptoms due to inhalation of vomitus following ether. It is probable that every obstetrician has had experiences such as these. DeLee[12] says, "The longer one's experience grows the more one respects the dangers of general anesthesia."

The writer has used local anesthesia on primiparae for the past four years and uses the following technic. Ampules containing 5 cc. of twenty per cent novocaine (Metz) are used. Dilution to 100 cc. with normal saline makes a one per cent solution; to 150 cc. makes a two-thirds per cent solution. Either of these strengths seems to be satisfactory, more so than a one half per cent solution. With a sterile medicine dropper fifteen drops of one to one thousand adrenalin solution are added. This is essential. So great is the blood supply of this area that the anesthesia will be quite evanescent unless the adrenalin is used. Moreover an injection of a few cc. of the adrenalized novocaine solution makes an episiotomy often bloodless. These 20 ampules are simpler to use than the tablets which must be crushed before use. Referring to the use of tablets which have incorporated in them epinephrine, Hertzler[1] says, "These are not always stable and it is best to employ the epinephrine solutions." Any type of syringe may be used successfully for the injection. The writer uses a Dunn syringe which is a two-way syringe of 3 cc. caliber. With this type of syringe it is not necessary to refill. About 5 to 10 cc. are injected into the spot where the episiotomy is contemplated. The ischial tuberosity is palpated. Fifty to 70 cc. of one per cent or two-thirds per cent novocaine solution are injected about one centimeter medially and caudally to the ischial tuberosity, at a depth of about 7.5 cm. If a two-way syringe is used, it is kept moving slightly so as not to inject into a vein. If a large syringe is used, aspirate first to be sure that the needle is not in a vein. Use a needle which will bend but not break. The needle ought to be about 10 cm. in length. In thin women 50 to 60 cc. on each side is sufficient. In stout women 60 to 70 cc. on each side should be used. About 5 cc. is then injected in each labium majus and about 10 cc. on each side of the sphincter ani about 3 cm. in depth. In a successful injection the relaxation is as complete for the outlet as it is under a surgical anesthesia. (See illustrations 1, 2, & 3.) The percentage of successful injections will vary. After it has been used by an individual twenty-five or thirty times, the nerve block is perfect in nearly every case in thin or normal women. In stout patients it has been the writer's observation that occasional partial failures result. Even in these, the amount of general anesthesia required is less and this is advantageous. For the normal delivery one of the barbiturate preparations plus scopolamine is used during the first stage. Occasionally a small (forty-five milligram per kilo) dose of avertin is used in the second stage. This or gas oxygen is valuable in the type of patient who is very restless under drugs of the barbiturate series. The

writer hesitates to use more than 45 mg. in addition to drugs of the barbiturate series which have been used previously. For midforceps operations gas oxygen is necessary, as the blades pass into unanesthetized areas. This is no objection, however, as the writer has noticed on two occasions doing midforceps, that involuntary pushing of the patient when traction was made on the forceps, appreciably helped in the descent of the head. The amount of gas as related to the percentage of oxygen is less than when novocaine is not used. It is never necessary to produce even the slightest cyanosis to get results. As soon as the head is on the pelvic floor, gas oxygen may be omitted. Where the patient is very restless under the use of hypnotics such as sodium amytal, phenobarbital sodium, pentobarbital sodium, dial, sodium alurate etc., the use of gas oxygen (50 per cent gas, 50 per cent oxygen) is necessary until delivery is completed. In this case a small dose of avertin may also be used rather than the gas oxygen. Manual aid to breech delivery requires only local anesthesia, or at the most local plus 50 per cent gas 50 per cent oxygen. In the decomposition and extraction of a breech, however, following the technic of Irving and Goethals[13] and Piper[14] it is necessary to use ether or avertin in order to get relaxation of the lower segment of the uterus. Local anesthesia in addition will give the following advantages. 1. Routinely perfect relaxation of the outlet. 2. Less bleeding from the episiotomy which is now a routine in breech extraction. 3. Often a smaller episiotomy than with ether alone. 4. The use of less ether because the episiotomy may be sewed up under the action of the local, the ether being withdrawn as soon as the baby's head is on the perineum. The writer feels that the same advantage applies to the use of novocaine in the performance of version and extraction. There have been no reactions in over seventy-five private cases, and there has been no infection in the areas injected. A consideration of the tremendous blood supply of the parts will bring the realization that infection should be indeed a rarity. Neither more nor less episiotomies should be infected whether done under a general or local anesthetic. Anesthesia produced with novocaine lasts three-quarters of an hour to an hour. It may last longer, but this duration can be depended upon. As noted previously Abdurel[9] and Reist[10] state that they obtain an anesthesia lasting for four or five hours with one to one thousand or one to two thousand nupercaine solution.

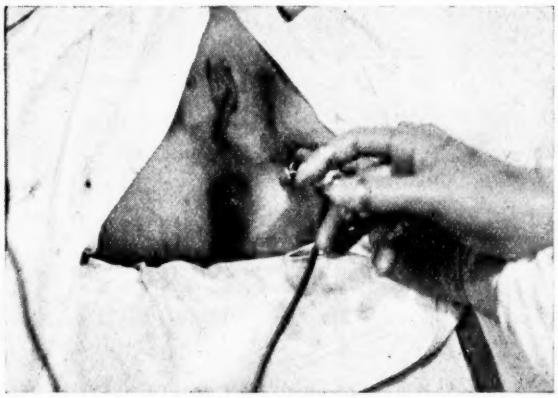

ILLUSTRATION 1.

Block of perineal nerve. About 10 cc. have been injected into site of proposed medio-lateral episiotomy. Gas oxygen administered until injection is done. This requires 2 or 3 minutes.

ILLUSTRATION 2.

Delivery. No general anesthetic is being administered. Baby's weight, 7 pounds. Patient is a primipara.

ILLUSTRATION 3.

Repair of episiotomy. Bleeding from separating placenta. Clear-cut avascular tissues due to adrenalin. No general anesthetic is being administered.

Three other methods of using novocaine in obstetrics should be considered. 1. Caudal anesthesia. J. W. Kelso[15] used it in thirty-four cases. He felt it had the following drawbacks. (1) It must be given only under the strictest precautions and cannot therefore be used in the average home delivery. (2) The administration is technically not easy; it is not always possible to gain entrance to the hiatus. (3) He felt that this anesthesia produced a certain amount of inertia in practically every case. In a personal case the insertion of the needle into the hiatus resulted in the presence of spinal fluid, necessitating the withdrawal of the needle, as the doses used for this anesthesia would almost certainly have produced serious consequences if injected into the spinal canal. The method of sacral block which was preferred by Tovell[3] to perineal nerve block, consists in a caudal anesthesia plus injection of each sacral nerve, gaining entrance to the foramina posteriorly. The writer has not used this method. It would seem open to the same objection as caudal anesthesia plus the fact that more time is consumed in the injection of the sacral nerves individually. Moreover from Tovell's description the procedure would not seem to be easy technically. The third method of using novocaine is that of spinal anesthesia. M. F. Eades[16] used this method in one hundred and twenty-one cases. They were all, however, abdominal obstetrical operations. His conclusions were

that it had a definite place in abdominal obstetrical surgery when the use of general inhalation anesthesia was contraindicated, but that the method was safe only with a judicial selection of risks and careful technic of induction, and a close observation of the patient during anesthesia and preparedness for any unfavorable reaction. He felt that it was contraindicated in bad risks or when shock or hemorrhage was present. The dosage used by him was 200 mg. In normal deliveries or in low forceps operations or breech extractions, a smaller dose than this would be quite sufficient. Not over 100 mg. should be necessary and 75 should suffice for normal or low forceps cases. Eades[17] feels that a dose of 75 to 100 mg. of novocaine crystals is perfectly safe. Further experience may show that in well-equipped hospitals spinal anesthesia in doses of 75 to 100 mg. may have definite advantages in some cases over nerve block of the perineum.

SUMMARY

1. The technic of the use of local anesthesia for normal and low forceps deliveries by infiltration of the perineum, and by block of the pudendal nerve is described.

2. The method is simple and safe. The criticism that it is a "hit or miss" method is true of any nerve block. The greater one's experience the fewer the "misses". Its use is suggested for the termination of labor in those patients for whom a general anesthetic is contraindicated. It is particularly suggested in toxemic patients.

3. Its use is also suggested in addition to a general anesthetic in breech extraction in primiparae, and following versions. A successful nerve block produces excellent relaxation of the outlet, a condition postulated by Potter, as a cardinal prerequisite for a successful extraction.

4. Where a general anesthetic is necessary it will reduce the amount needed.

REFERENCES

1 Hertzler, A.: The Technic of Local Anesthesia. 1928, 4th edition.
2 Baer, J. L.: Obstetrics and Gynecology (Edited by A. H. Curtis). Saunders and Co. 1:811, 1933.
3 Tovell, R. L.: Obstetrics and Gynecology (Edited by A. H. Curtis). Saunders and Co. 3:1058, 1933.
4 King, R. W.: Perineal anaesthesia in labor. Surg. Gynec. Obst. 23:615, 1916.
5 Rose, D.: Local anesthesia in first and second stage labor. New Eng. J. Med. 199:68 (July) 1928.
6 Torland, T.: Perineal anesthesia in obstetrics. Northwest Med. 29:312 (July) 1930.
7 DeLee, J. B.: Year Book Obst. & Gynec. 1930.
8 Oku, M.: Obstetrical significance of abnormal occipital squama in fetus. Japan. Jour. Obst. & Gynec. 12:361 (Sept.) 1929.
9 Abdurel, C.: Bull. et sem. d'obst. et de gynéc. de Paris. 30:35, 1931.
10 Reist, A.: Schweizerische Medizinische Wochenschrift. 28, 1930.
11 Wallace, J. T.: Thyrotoxicosis in its relation to pregnancy. Am. J. Obst. & Gynec. 26:77 (July 26) 1933.
12 DeLee, J. B.: Year Book Obst. & Gynec. 166, 1931..
13 Irving, F. C., and Goethals, T. R.: Elimination of second stage of labor in breech presentation. Am. J. Obst. & Gynec. 11:80 (Jan.) 1926.
14 Piper, E. B., and Bachman, C.: Prevention of fetal injuries in breech delivery. J. A. M. A. 92:217 (Jan.) 1929.
15 Kelso, J. W.: Caudal anesthesia in obstetrics. Am. J. Obst. & Gynec. 18:416 (Sept.) 1929.
16 Eades, M. F.: Observations on use of spinal anesthesia in abdominal obstetric operations. Am. J. Obst. & Gynec. 23:407 (March) 1932.
17 Eades, M. F.: Personal Communication.
18 Greenhill, J. P.: Local, infiltration anesthesia in obstetrics. South M. J. 26:37 (Jan.) 1933.

RIGID FLAT FOOT—REMODELLING

BY FREDERIC JAY COTTON, M.D.,* AND GORDON MACKAY MORRISON, M.D.*

THERE is nothing new about the recognition of flat feet of long standing that have become utterly rigid, so far as tarsal flexibility goes. Nothing new about forcible remodelling of selected cases of this sort. There is, however, something to say about choice of cases and there is something to say about an instrument (most simple) to which we have no claim save that of adoption, that helps a great deal. There is something to say about the ultimate remodelling, in the plaster boot, and something also about the *physiology* of recovery of function and proper stance. As to choice of cases, there is no use in attempting simple mobilization in feet in which years of growth with distorted bone relations have resulted in considerable change in the bony "architecture". Any successful remodelling of such feet must include remodelling of bone. Only feet rigid from spasm and contracture with decently normal bone shapes are fit for manipulation remodelling.

As to the instrument (fig. 1) it is a very simple "strap wrench" devised by the late Dr. Gwilym G. Davis of Philadelphia. It is of 3/8" tool steel of good quality welded and tempered, or the apparatus will buckle up under use. The straps A & B are simply buckle straps of 1" or 1 1/4" webbing. The whole instrument is about 18" long. Only the straps come in contact with the skin and do not bruise even under heavy leverage.

Its original use was for stretching a tight tendon Achillis*, but it is most serviceable where one needs more force than that of the bare hand for correction in any direction, and much force is usually needed, for, in order to attain correction one must first *over*correct these deformed feet. Otherwise, the tension of the plaster to maintain position is unbearable. It is not the violence of the reduction, but the stretching of *untorn* tissues that gives pain. If this is re-

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*And properly used for this, it renders the once fashionable operative lengthening of heel cords a rare operation.

membered, such corrections do not give great postoperative pain.

As to the ultimate remodelling, one point not perhaps quite easy to make clear is of paramount importance. If we correct the whole foot inward into varus position as in A of figure 2, then when the plaster comes off, the *front part* of the foot must needs come back to the flat surface, and in so doing is at least as likely to swing the whole foot (heel included) at the subastragaloid joint as at the mediotarsal level. That, if it happens, pretty much spoils our correction. If, however, the foot is corrected into varus, the heel then held in sharp varus (see B) *while the front part of the foot is brought back to neutral position,* then this recurrence of deformity does not happen. This can be done though it calls for good plaster work.

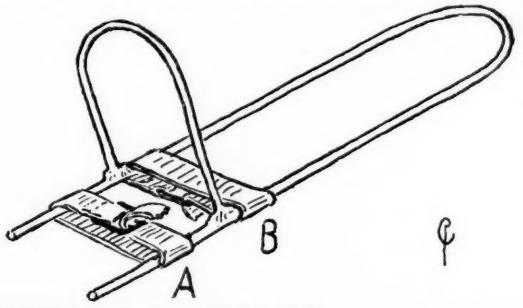

FIGURE 1. The Davis strap wrench.
The essentials are the hairpin shaped lever and the two webbing straps through which leverage is exerted on the foot in the desired direction. The short bow simply braces the long rods apart. Otherwise, under the heavy strain they would bend inward.

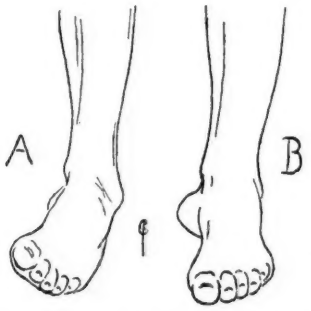

FIGURE 2. A. The usual position in which a remodelled flat foot is apt to be put up. Unfortunately, in this position the mediotarsal joint stiffens somewhat, and when the sole comes flat it is very doubtful *which* joint will go back into eversion.

FIGURE 2. B. The proper position. The foot is put up in plaster with the heel just as sharply inverted, but with the front part of the foot *already rotated* at the mediotarsal joint to the position of the normal tread.

If this is done, then a few weeks of exercises, and the wearing of the efficient (if not too comfortable) Whitman "rocker" plates, are apt to be followed by gratifying results.

It is recognized that this handling is heresy—that is to say it is not what is taught, but it is sound physiological mechanics,—and it works.

A SEPARATE OSSIFICATION CENTRE FOR THE INTERNAL MALLEOLUS

BY ALEXANDER P. AITKEN, M.D.*

MUCH has been written about the "Occasional Epiphyses and the So-Called Additional Bones of the Foot." Notable among these are the os trigonum and the epiphysis at the base of the fifth metatarsal. However, in all the literature we have been able to find but one reference to the condition which we are about to describe. Poland in his classical work "Traumatic Separation of the Epiphysis" quotes a case of Beclard, as follows:

"Beclard has once seen and described a special centre for the internal malleolus, immediately joining the principal portion, but the author has never seen a distinct epiphysis and its occurrence must be extremely rare."

The internal malleolus usually develops along with the distal articulating portion of the tibia from the distal epiphysis, the development of the internal malleolus occurring as a downward growth from the inner side of the epiphysis. Up to the sixth year no definite internal malleolus can be seen by x-ray, however a definite downward growth does begin about this time (Cohn). At about eight and a half years a definite downward projection is noted on the inner side of the epiphysis. From the tenth to the eleventh year, a definite internal malleolus is formed. By the fourteenth year there is usually a complete ossification of the epiphysis of the tibia, although the epiphyseal line is still present. This line does not disappear until about the sixteenth year (Cohn).

The following case is interesting in that it shows that the internal malleolus need not develop as above, but from an ossification centre of its own. Also, when this condition does exist, it might well be mistaken for a fracture.

CASE. H. H., aged ten years. Admitted to the Chelsea Memorial Hospital with a history of having had his left foot caught in the rear wheel of an automobile. The left ankle was swollen and there were two lacerations over the lateral aspect of the lower leg and ankle. There was considerable tenderness over the external malleolus. X-rays were taken for a questionable fracture of the fibula. These revealed a definite crack through the internal malleolus which was interpreted at first as a fracture. However, closer inspection of the dry plates revealed the fact that the "fractured edges" were lined with a very fine layer of cortical bone. This brought up the question as to whether this was not actually an ab-

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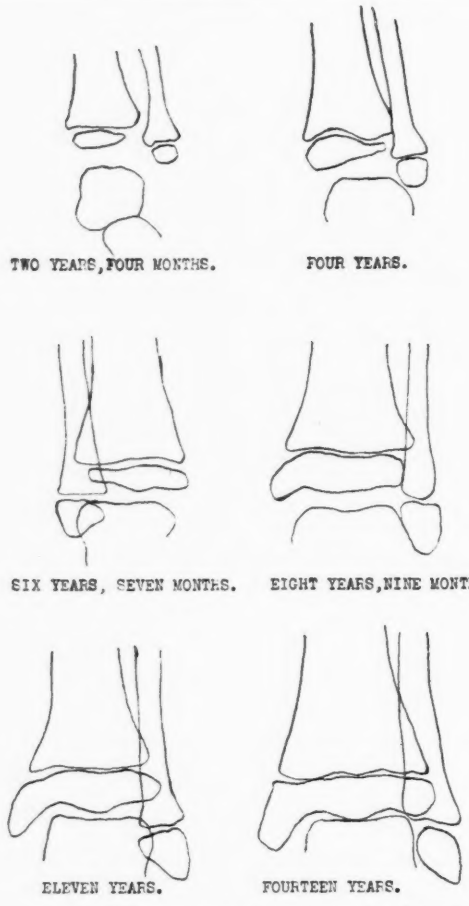


Tracings of roentgenograms of the normal ankle at various ages showing the usual development of the internal malleolus.

normal epiphysis. An x-ray was then taken of the opposite, uninjured ankle, and a similar picture found in the internal malleolus, giving conclusive proof that we were dealing with an abnormal epiphysis.

According to the literature, or rather to the absence of literature, it would seem that this condition is exceedingly rare. However, it is possible that if all fractures of the internal malleolus were more carefully examined, especially for the presence of a thin cortical layer, as one sees in the os trigonum, perhaps this condition is not actually so rare as it might seem.

REFERENCES

Poland, John: Traumatic Separation of the Epiphysis. 1898.

Bishop, P. A.: Fractures and epiphyseal separation fractures of the ankle. Am. J. Roentgenol. 28: 49 (July) 1932.

Burman, M. S., and Lapidus, P. W.: Unusual appearance of the accessory scaphoid and the stylo epiphysis of the fifth metatarsal. J. Bone & Joint Surg. 12: 160 (Jan.) 1930.

Sullivan, W. E.; Geist, F. D., and Mueller, G. G.: The epiphyses of the bones of the extremities at puberty. J. Bone & Joint Surg. 6: 239 (April) 1924.

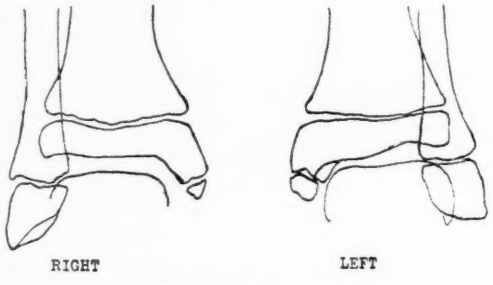
Colwell, H. A.: Case showing abnormal epiphyses of metatarsals and first metacarpals. J. Anat. 62: 183, 1928.

Davies, D. A., and Parsons, F. G.: The age order of the appearance and union of the normal epiphyses as seen by x-rays. J. Anat. 62: 58 (October) 1927-28.

Koenig, C. E.: Normal and abnormal epiphyses. Northwest Med. 25: 365 (July) 1926.

Cohn, Isidore: Normal Bones and Joints. Paul B. Hoeber, New York. 1924.

Dwight, Thomas: Variation of the Bones of the Hand and Foot. J. B. Lippincott Company, 1907.



Tracings of x-ray plates of case of epiphyses of internal malleolus.

Holland, C. T.: On rarer ossifications seen during x-ray examinations. J. Anat. 55: 235, 1920-21.

Parsons, F. G.: Observations on traction epiphyses. J. Anat. 38: 248, 1903-04.

Paterson, R. S.: A radiological investigation of the epiphyses of the long bones. J. Anat. 64: 28, 1929-30.

THE ADDRESS OF DR. STEPHEN RUSHMORE AT THE HEARING ON HOUSE BILL 118*

HOUSE Bill 118 has been presented in accordance with Chapter 112, Section 4 and Chapter 30, Section 33 of the General Laws, having been drafted by Counsel for the House, and is part of the Annual Report of the Board of Registration in Medicine. By vote of the Board, the Secretary has been duly authorized to make representations for it, and much of what is submitted to this Legislative Committee is an amplification of material already incorporated in the Report but not yet published.

The object of the Bill is to give increased protection to the health of the people of Massachusetts by raising the qualifications for the practice of medicine. The recommendations of the Board concern several minor modifications of detail, and one important change in procedure, which is to give the Board power of approval of medical schools from which it receives candidates for examination.

In the recommendations of the Board, which accompany the Bill, there are discussed adequately, I think, all of the minor changes suggested, and they will need no amplification at this time, although I shall be glad to answer questions about them if the Committee desires. I shall discuss briefly the important change concerning approval of medical schools, which is the feature of most significance from the point of view of protecting the public.

Before discussing the new bill, I would like to say a few words about a noteworthy change in the medical practice act made in 1933. The provision to which I refer is the requiring of the candidate that he spend four years of not less than thirty-two weeks in each year in some medical school. The significance lies in the fact that for the first time in the history of medical legislation in Massachusetts, attention has been paid to formal medical education as a qualification for practice. The requirement as worded is not severe, but the direction in which it carries the statute is absolutely new, and is in the line of progress. The requirement is not that the candidate shall take certain courses and complete them in a manner satisfactory to the school; not that he shall advance from year to year in a graded medical course; but merely that he shall live through four years of attendance in a medical school. It does not represent a very high standard but it is better than the statute before the amendment of 1933.

The object of the new bill is to raise the qualifications for the practice of medicine in Massachusetts. Are the qualifications not high enough already? From the point of view of the person who is ill, the qualifications cannot be too high; we would like every patient to have the best that the science and the art of medicine can give. That is ideal, but the statute cannot deal with ideal conditions; it can establish only reasonably high minimum standards of qualification below which it is not safe for the patient to permit the physician to fall.

What are reasonably high standards? May I say again that ideal standards would be unreasonably high to incorporate in the statute, and that reasonable refers to the standards of the community. In New England, Massachusetts has the lowest statutory standards, in spite of the excellence of many individual practitioners of medicine, and the excellence of some of its medical schools. In fact, Massachusetts has the lowest statutory standards in the whole United States. To many persons, proud of the traditions of Massachusetts for enlightened legislation, the mere fact that, in this respect, Massachusetts has the lowest standards would be sufficient reason for raising them to at least the level of the general average. Can there be any question that the standards should be raised at least to the general level prevailing throughout the United States, prevailing even in those parts of the country which we are sometimes accustomed to look upon as backward in protecting the health of their citizens?

The recommendation of the Board is that Massachusetts should adopt the requirement that has been adopted and found to be satisfactory in every other jurisdiction in the United States, and in fact has been adopted in Massachusetts for every other Board in the Division of Registration, whose registrants have to do with the bodies of living persons, namely, to give to the Board of Registration in Medicine discretionary power of approval of schools from which it accepts candidates for examination.

The first question that naturally arises is, why should medical schools need approval? Or to put it the other way, why should not every medical school be approved? The answer is that some medical schools are doing a very poor job in providing medical education. I shall show first why this is so, and, secondly, in what respects it is so.

The question may be asked, if some schools are doing such a poor job, why not let natural competition do its work? For students will not go to poor schools and thus the schools may disappear for lack of students. The answer lies in what the State is doing for these poor schools.

In general, there are two and only two statutory requirements in Massachusetts if a medical school is to be able to send its graduates up for examination by the Board. It must be legally chartered and it must be empowered to

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Rushmore, Stephen — Secretary, Massachusetts State Board of Registration in Medicine. For record and address of author see "This Week's Issue," page 817.

confer degrees. These requirements are distinct and definite, and it can be determined easily whether an institution does or does not fulfill them. The state, in requiring the degree in medicine, has put a commercial value on the degree, and by refraining from any other requirement for the school, has left it free to do anything it sees fit in the way of giving a medical education. There are no limits to the degradation of medical education that the school may choose for itself. To be sure there are no upper limits set by the state beyond which a school may not go, but no one can make money giving an excellent medical education and it is possible to make money by giving a degraded medical education. The state should interfere to prevent the degradation of the power which the state has conferred and the Board recommends that it should employ the procedure used by nearly every other jurisdiction for this purpose.

In this discussion it will be convenient to use the classification of medical schools employed generally by state boards of registration in medicine, namely, some schools are approved and the others are not-approved.

The records of the graduates of the not-approved schools indicate that these schools are not doing a very good job, and it is partly on the record of the graduates that the schools are not approved. These graduates of the not-approved schools which are in Massachusetts are not admitted to examination for licensure in any jurisdiction in the United States except in Massachusetts. The reasons for this are best known to the administrative boards of these jurisdictions, but I venture to suggest that if they all agree, there is probably some good reason for the agreement. So Massachusetts stands alone, as opposed to all the other states, in its policies regarding standards of medical education.

Justice Oliver Wendell Holmes, a distinguished son of Massachusetts, has said, "If I am in a minority of one, they send for a doctor or lock me up; and I am so far able to transcend the to me convincing testimony of my senses or my reason as to recognize that if I am alone, probably something is wrong with my works."

In the examination before the Board of Registration in Medicine in Massachusetts, the records of the graduates of the not-approved schools are clear, and I would refer only to the Report of the Board for 1932. There in table IV, one not-approved school shows a total of 75 per cent rejections; a second 65 per cent rejections; another 92.5 per cent rejections; 96 per cent; 80 per cent; 100 per cent rejections. In the tabulation of rejected candidates (table V) one candidate from an approved American school was rejected twice, but registered on the third examination; and one candidate from a foreign school was rejected three times but registered on the fourth examination. No other candidates from approved schools failed more than once. But from not-approved schools there were candidates examined 14, 19, 13, 11, 17, 11 and 17 times respectively and not yet registered. Does any one think that these candidates bought reasonably good medical education?

Last year I called your attention to the number of complaints against physicians that had been made to the Board. There were relatively five times as many against graduates of not-approved schools as against graduates of approved schools. In the days of the "noble experiment", permits to prescribe alcohol medicinally were revoked in relatively five times as many cases of graduates of not-approved as of approved schools. Surely there must be something wrong with the method of selection and the training given in the not-approved schools.

It is not to be understood, of course, that the Board claims that every graduate of an approved school is qualified for practice. The records of the Board and the records of the graduates in practice show that this is not so. But the records of the Board and the records of the graduates in practice show also that there is an unreasonably high percentage of unqualified practitioners among the graduates of the not-approved schools. It is because the not-approved schools, are, judging by the results, taking no proper steps to remedy this condition, that the Board asks the legislature to take action.

I have here the catalogues of some of the not-approved schools, and I am going to let them speak for themselves, for I would like to have you realize, if possible, just what these schools are actually doing. I shall not give complete descriptions of these schools but I can assure you that whatever I say of the schools is based on what I find in the catalogues; I do not guarantee that they speak the truth.

I have written to the not-approved schools for their latest catalogues, but not all of the schools have replied, so that if I quote from catalogues which are not the latest you will understand why I do so. I may say that mere writing for a catalogue does not ensure securing one. Some months ago, I received a letter from an organization interested in suppressing improper advertising, asking if I found any improper advertising in the latest catalogue of one of these schools. As the letter was not accompanied by a copy of the catalogue I requested one from the school but received no reply. Later I wrote again, by registered mail, requesting a return receipt card. In due season a letter came expressing regret that the school could not send me a catalogue, the supply was exhausted, and for reasons of economy it was doubtful whether more would be printed.

I shall mention no school by name, because I desire to emphasize the principle of approval, and to indicate what is done by schools which are not controlled by discretionary approval of an authoritative body outside of themselves.

One of the claims made for these schools is that they give an opportunity for the poor boy to study medicine. In most cases it is impossible to remove the handicap of poverty, but the burden can be lightened by intelligent effort. What effort is made in this direction by the not-approved schools?

One of these schools claims that it specializes in poor but worthy students. Let us see how it specializes. The thing that the poor but worthy student needs above all other things that he does not have is money—financial assistance. This school which specializes in poor students says that it can do little financially for them, and then to quote its own words exactly "perhaps it is better it cannot help in this way." Reading further, one finds no evidence that financially it does anything at all, although it acknowledges that it can do "little", and all that it actually does in any way, beyond talk about it, is as follows: "Students may stay out a year or more, and if deserving, will always find their places reserved for them." How difficult or easy it is for the school to make this effort and reserve places for the poor students, is shown by a reference to the capacity of the school, seventy-five in each class, and to the number of students enrolled, varying from fifty-two to sixty-two in the different classes. So that there are from thirteen to twenty-three vacancies in each class, which the school reserves by great effort, perhaps, as there is no demand for them.

There is one approved school of medicine which some of its friends speak of as one of the great medical schools of the United States, even of the world, which makes no pretense to specialize in poor boys. I am credibly informed that this school has about forty thousand dollars a year available for needy students in the form of loan funds or scholarships. The cost of tuition in the two not approved schools is three hundred and sixty dollars a year, and four hundred dollars a year in the approved schools. It would seem that if a school really specialized in poor students it ought to do something financially for them.

Then there is a not-approved school which says that "it recognizes the 'Mark Hopkins' element (in education) and its importance". It is hardly necessary to remind a Massachusetts audience of what this means, that Mark Hopkins was the eminent president of a small but distinguished Massachusetts college, and that a president of the United States, James A. Garfield, was drawn "irresistibly" to Williams College by a letter from President Hopkins. President Garfield said that his idea of a university was sitting on a log with Mark Hopkins. American education has been enriched by this noble tradition of the influence of a great teacher, which is the "Mark Hopkins element". Let us see what this not-approved medical school has done about it, besides recognizing it.

I have checked the whole list of the trustees and the faculty of this not-approved school against the list of members of the medical society of the state in which the school is situated.

Now the State Society is a constituent member of the American Medical Association which is the alleged "medical trust", described by some of the not-approved schools as trying to suppress them. So that even in the face of the alleged opposition by the "trust" I find that 28 out of 91 members of the faculty are actually members of the "trust".

Let us see how the trustees and faculty fare in some other lists with which not even these schools allege the trust has anything to do. There is first the list of members of the American College of Surgeons, with a total membership of about ten thousand in the United States and over seven hundred in the state in which this school is situated. I find no name in this list of surgeons, and I would remind you that membership in the American College of Surgeons is not limited to graduates of schools which may be approved by the Regents of the College. Graduates of any medical school, if showing qualifications of achievement may become eligible.

Then I have checked the list of trustees and faculty against the directory of American Men of Science containing the names of over twenty-two thousand men and women in the United States who have attained distinction in science, research and education. Though there are many doctors of medicine found in this directory, there is no one from the faculty or trustees of this school.

I have checked this list finally against "Who's Who in America," which needs no description by me. Again I find no name from the list, so that while this school recognizes the "Mark Hopkins element" which goes beyond the medical profession, the "Mark Hopkins element", so far as I can determine does not recognize this school.

In one of the catalogues is the statement that the school is the only eclectic medical school in the United States. This statement is not true and was not true when the catalogue was published, but an egotistical error of the sort is easily forgiven. Elijah the Tishbite thought he was the only prophet in Israel, but he was gently but firmly reminded that there were seven thousand others. I find that this eclectic school devotes some space to a discussion of eclecticism. Now if one writes the word eclecticism with a small *e*, then every scientific physician is an eclectic, for it is his duty and his pride to use whatever means he can find, from whatever source, to help his patient. If one writes it with a capital *E*, then Eclecticism refers to a narrow sectarian school which is generally regarded as having outlived its usefulness. In spite of the fact that there is no evi-

dence in the outline of the course of studies in this school as given in the catalogue that the students are trained in Eclecticism, I find that they have been grounded so thoroughly in the principle of choosing what they think is best for their patients and themselves that when they were asked at the time of their application for examination before the Board what school of practice they plan to follow, of one hundred candidates, fifty-four or more than half chose the regular school of practice, twenty-one chose the Eclectic school of practice, twenty chose both regular and Eclectic, one chose Homeopathic and Eclectic, and four were apparently unable to make any choice at all.

One finds here and there suggestions of intentional misrepresentation. For example, it is stated somewhere that although the students are admitted to advanced standing, that is at other points in the four year course than at the beginning, "it is understood", that because of the full enrollment there are comparatively few such students accepted. Referring to the capacity of the school and the number actually enrolled one sees that there were about twenty vacant places in each class so that one wonders who it is that understood that the enrollment was full. Certainly no one who read the catalogue was justified in any such understanding.

I would call your attention to the system of examination set forth in one of these catalogues. There are "student examinations" given every month. There are "faculty examinations" usually covering longer periods of instruction than the student examination. "These examination books may not be returned to the students". Then there are the "Trustee examinations" the books of which are graded by four persons "usually not connected with the college". By this system, you can see that control of the student is taken away from the faculty and transferred to four persons "usually not connected with the college", who may be controlled by the administration, perhaps one person. It is the set-up for a dictatorship.

Then I find in one of the catalogues the statement that although this school is not subject to the Council on Education of the American Medical Association and is not a member of the Association of American Medical Colleges, its admission requirements are equal to the requirements of either of these two organizations. The only thing to be said about this statement is that it is not true.

There are some amusing statements to be found in this rather dreary reading of the catalogues. For example, "In the interest of economy, this catalogue does not publish the usual uninteresting, encyclopedic and redundant descriptions of courses of study, prefaced with long lists of professors. These courses are practically the same in all medical schools including" the school making this statement and "Anyone desiring such a description should consult any one of the usual conventional catalogues". Gilbert and Sullivan hardly did anything better than that.

One of the schools advertises what is in substance the set-up of a diploma mill. Of course, the old-fashioned diploma mill, which sold its diploma after no course of study was pursued by the candidate, is gone. But this school to which I am referring admits "to advanced standing", this does not mean postgraduate work, physicians registered in the state in which the school is situated. Then we find that one of the conditions for receiving the degree of doctor of medicine is a hospital internship or *its equivalent in practice.* Translated into plain English this means that an osteopath, if he is registered to practice medicine in the state in which this school is situated, may be admitted to advanced standing, and after fulfilling requirements that are very vague, may go back to his office and practice medicine, and in due time receive a diploma indicating that the degree of doctor of medicine has been conferred upon him. The catalogue says nothing definite of the cost to the candidate of the permission to practice while enrolled in the school or of the cost of enrollment in the school while practicing medicine but undoubtedly this is arranged through the usual channels. Now I have no evidence that diplomas are actually sold in this way: I am simply pointing out to you that this school publicly advertises the set-up of a diploma mill for the benefit of osteopaths, who are already registered by the Board. Since the candidate is duly registered, his license to practice is not involved by receiving later the degree of doctor of medicine in this way. In the days of the "noble experiment", if a man was found to have a still in his cellar he was condemned. I do not say that was just, but I am pointing out to you that a medical school advertises publicly that it has a diploma mill in its cellar which it can use.

What has the graduate of one of these not-approved schools received in return for the money he has paid, and how much money has he paid? The tuition fees vary, but one school to which I have already referred has a fee of $360.00 a year. A graduate from this school has then bought for $360.00 eligibility to examination in one state only, and a chance of passing that examination within the first year which is about fifty-fifty. For forty dollars a year more, or $400.00, he could have bought in Massachusetts, at any one of three approved schools, eligibility, after a year's internship, to take the examination in any jurisdiction in the United States, and a practical certainty of passing that examination within one year. But that is not all. The graduate of a not-approved school, even if registered in Massachusetts, would find himself handicapped in getting a position in a good hospital; in getting work with

insurance companies; in getting protective insurance as a physician; in getting admission to medical societies. The graduates of these schools know these things perfectly well and that is why some of them, having had the bitter experience of this handicap for years, desire that the schools from which they received their degrees become approved schools, as it would so greatly improve their own standing in the community. I trust that some of these physicians will have the courage to tell you publicly what they have told me privately.

It has been said that these not-approved schools are meeting a demand and filling a need. I have already referred to the demand by the poor boy and I need say nothing further on that point, but there is another demand, namely, for more places in medical schools for persons who want to study medicine. But for just what is this demand? Is there any great demand for medical education in a not-approved school? Every not-approved school could admit more students than it now has, if more candidates applied. There is no not-approved school that selects its entering class from over a thousand candidates, and yet a number of the approved schools do just that. Last year there were 16,000 applicants for medical schools in the United States. Only 6,200 were admitted. There is not a single not-approved school that could not fill its class rooms to overflowing if only it became an approved school; yet this they all refuse to do. Why, they perhaps will tell you.

What does this discretionary power of approval by the Board actually mean? Apparently it means very different things to different people. I have been reading of late some of the things written by persons opposed to the conferring on the Board of such discretionary power, and they give a picture of a situation so different from the facts as I see them that I would like to take a moment to discuss this point.

For example, from what I have been reading I get the picture of a powerful Medical Trust which has, by various means, on the whole rather underhanded, gained control of all the medical schools of the country except the not-approved schools. These, they say, in a high spirit of independence refuse to be bound by the chains of the Trust. Furthermore, none of the approved schools is able to do anything except what the Trust permits; it is, so to speak, bound hand and foot. Does it sound reasonable that great universities, some of them wealthy and powerful institutions, should have to do what the American Medical Association says? I remind you that this Association is called the Medical Trust.

The facts are, in the first place, that the only thing that the American Medical Association can do to a school of which it does not approve, is to say that it does not approve; the expression now used by the Association is to say that it does not recognize the institution. In the second place, these dreadful requirements that the Association makes, are simply that the school shall not fall below certain generally recognized minimum requirements for a good medical education. It does not say a school shall not grow as high as it desires, nor as wide as it desires; but it says the school may not go down, may not degrade medical education. Each school determines for itself how excellent a school it may become within the limits of its resources, but it cannot degrade medical education and be approved.

There are approved medical schools which, seeking to do the best they know how and to give as good as possible a preparation for the practice of medicine, might be ashamed of themselves if they could do no better than attain the minimum requirements of the American Medical Association. The minimum requirements are to prevent dangerous degradation and to protect the public, and for no other purpose.

What is the Board trying to accomplish by this proposed change in the statute? There has been much misrepresentation. Notwithstanding statements to the contrary, the Board is not trying to revoke the charter of any medical school, nor trying to have it revoked. The Board is not trying to close any medical school nor have it closed. There may be too many or too few medical schools in this country, or in Massachusetts. That is a question outside of the province of the Board. But if there were a thousand medical schools in this country, and if they degraded medical education beyond any point reached in the past or in the present, it would be a matter of comparative indifference to this Board, *if* it had the power to perform adequately that function for which it was created, namely, to protect the people of this Commonwealth against unqualified practitioners of medicine.

What is a qualified practitioner? The qualifications for the practice of medicine are four: morals, manners, knowledge and skill. On all of these points the candidate should be tested and yet on some of these points the candidate cannot be tested directly by the Board. How can the Board test morals? It must be satisfied with statements by other people and you can understand of how little value some of these statements may be. How can the Board test manners? Manners can be tested only when the candidate is actually practicing, is dealing with patients, when he is in action, so to speak. Only then can it be seen whether he is actuated by proper motives and shows proper consideration for the ill persons who entrust themselves to his care. Here also the Board cannot make any satisfactory test.

Knowledge it can and does test, but so vast is the field now covered by medicine that this test can be made only by samplings from some of the so-called major subjects.

Skill, the Board cannot test, as it is not possible under the present conditions for the Board to give a comprehensive practical examination.

Nevertheless these qualifications can be tested and a system has been devised which is in active operation in many places and has been found to be reasonably satisfactory. It is an educational system, employed thoroughly in connection with some medical schools, and in part by nearly all of the others. There is the requirement of at least two years of preparation for the study of medicine in an approved college; then four years of study of medicine in an approved medical school; finally, at least one year of internship in an approved hospital. The critical point in the whole system is the raising of the question: Is this candidate qualified as to morals, manners, knowledge and skill to carry the responsibilities of a physician? If this question is raised again and again by the teachers throughout the course and is answered with intelligence and sincerity and honesty, then the Board may be justified in accepting testimony about those qualifications which it cannot test for itself.

But the point here is that not all medical schools are doing this testing thoroughly, and so if the Board is to accept the judgment of the school for any part of the testing, it should have discretion as to the school whose judgment it is to accept, that is to say, as to the school of which it does approve. This does not mean that the Board would give up at all its own responsibility or its own tests; it means that the Board would be able to take advantage of the facilities of the school as it cannot do now.

I wish I might take the time to point out to you some of the changes which have taken place in medicine, in the past fifty years; what progress has been made in the acquiring of knowledge which must precede the application of knowledge in the relief of pain, in the prevention of disease, in curing disease, in prolonging life and in almost innumerable ways extending man's control over disease. Yellow fever has almost disappeared. We are protected from inroads by the plague, cholera, smallpox which, until recently, took such a dreadful toll in death. Tuberculosis is diminishing. Even cancer now shows yearly an increasing number of cures. Surgery has become almost new, such marvelous progress has been made.

The qualified physician is one whose mind is flexible, adaptable enough to advance with the progress of his art. It requires knowledge, it requires training, it requires severe discipline to produce the skill even to find out what progress has been made. A man can keep abreast of the times in a small field only. But the qualified physician is one who knows how to make available to his patient what the science and the art of medicine are providing for the cure or amelioration of his illness and in many fields preventive medicine assures the individual and the community of freedom from the devastating effect of many diseases. All of these applications of medicine require well-trained doctors who have recognized standing with their fellows.

SALYRGAN: ITS LONG-CONTINUED USE IN CARDIAC INSUFFICIENCY WITH LATENT EDEMA

BY IRA M. DIXSON, M.D.*

THE bulk of the literature on the mercurial diuretics is to be found in the foreign journals, principally German. A number of articles have been written about salyrgan dealing with its chemistry, its behavior in the body and the mode of its action. Salyrgan directly affects the kidney and seems to produce diuresis primarily by depressing the cells of the tubular epithelium thereby hampering diffusion or reabsorption while filtration is little, if at all, affected. On the clinical side the indications for its use and application have been well studied and reported. Its toxic effects have been stressed from time to time. These are rare and seem to consist of mild renal, gastro-intestinal and skin irritations, although sudden death from salyrgan has been reported[1, 2].

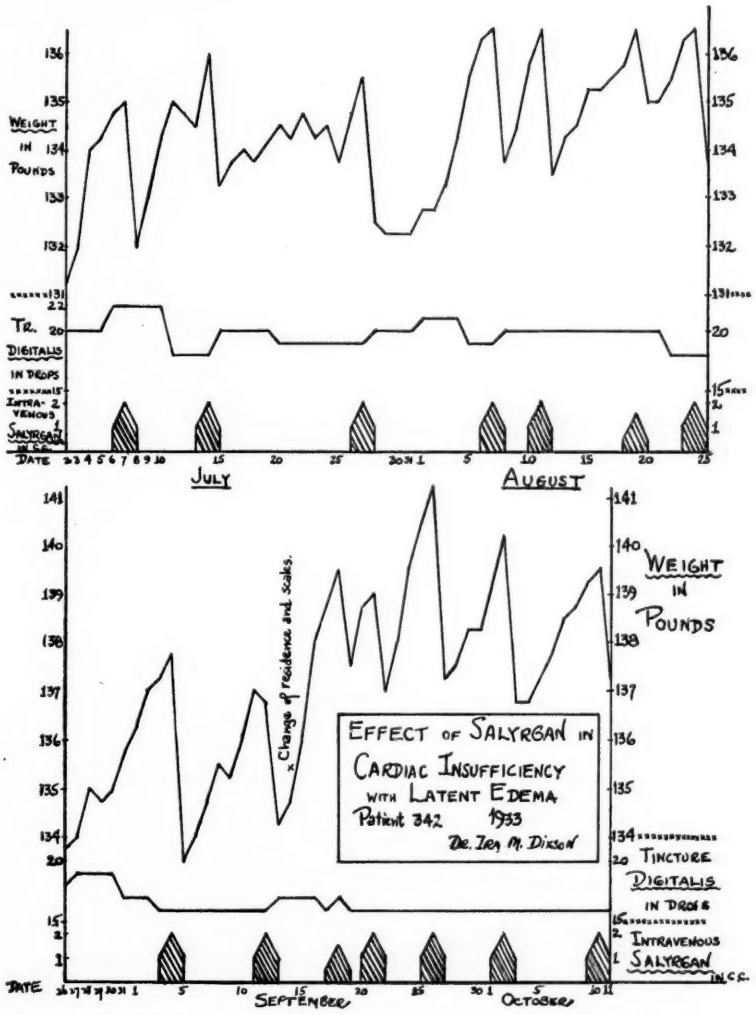
A search of the literature through June, 1933, reveals that reassuring case reports of its long-continued use are not numerous. In 1924 Bernheim[3] reported a patient who had been treated for five months without irritative symptoms. Valette[4] (1927) reported the use of novasurol for one year in a patient. Agnew[5] (1928) reported a favorable result in a patient with portal cirrhosis who received 2 cc. of the drug every other day for nine months. In 1932 Wiseman[6] published a case report of an obese woman handicapped by decompensated hypertensive cardiovascular disease who, in 1925, at the age of 58, began receiving injections of novasurol and later salyrgan and progressed to a total of 270 injections before death supervened five years later. The diuretic response was gratifying throughout, with no harmful results on the kidney or other organs.

It is deemed of interest to bring to the attention of practitioners the following case report of a man who has received well in excess of 150 injections of salyrgan, intravenously, continu-

*Dixson, Ira M.—For record and address of author see "This Week's Issue," page 817.

ously for more than the past year and a half. It may be that salyrgan has preserved his delicate balance between compensation and decompensation and has enabled him to lead a reasonably useful and happy life meanwhile.

This is the story of a man in his seventy-third year who has lived a singularly vivid and useful life. For the past several years he has been under the care of Dr. Herman O. Mosenthal of New York, to whom I am indebted for the details of his past history and the privilege of publishing this case report.



testinal tract were carried out and found to be negative. The pains were relieved by nitroglycerine and the conclusion was reached that they were due to pathology in the coronary arteries. In September, 1930, upon his return from a European trip, he complained of severe pains in his knees, shoulders and neck. A week or two later he was forced to bed because of fever and marked lassitude. The fever continued for several months and no definite conclusion as to its cause was ever reached despite thorough study. The only occurrence outside of the general malaise and fever was a left facial paralysis which came on very suddenly and disappeared in the course of a few weeks. The only residue of the malady was the development of rather severe angina pectoris which was made distinctly worse by nervous tension and excitement. In April, 1932, there was an attack of coronary thrombosis associated with marked cardiac insufficiency from which the recovery was very slow. Parenthetically, it is of interest that since this attack, the angina pectoris has practically disappeared. It was during his convalescence from this coronary episode that salyrgan was first used. For an interval during the summer of 1932, while traveling, its use was omitted and there soon resulted an alarming state of decompensation. Otherwise its use has been continuous. The accompanying chart graphically shows the diuretic response to salyrgan which has always been satisfactory. A natural gain in weight of a few pounds

The patient first came under observation in October of 1923. At that time he was found to be of approximately normal weight, with slight thickening of the peripheral arteries, blood pressure 176/88, a systolic murmur over the whole precordium and a faint diastolic murmur over the sternum. The lungs showed no emphysema. Routine laboratory studies were essentially normal. It was concluded that this was an instance of aortic insufficiency on an arteriosclerotic basis and that the heart was compensating perfectly. In July, 1929, he became suddenly blind in his right eye due to an occlusion of the right central retinal artery. Both before and after this at rare intervals there were attacks of paroxysmal dyspnea and also in 1929 he began to experience occasional epigastric pains. These became severe in November, 1929. X-ray studies of the gastro-in-

was apparent clinically during the summer months. There was no gross edema at any time during the charted period.

The indication for an injection has been the occurrence of dyspnea, most distressing in the morning before breakfast. The only physical sign that correlated with this symptom was the occurrence of about two fingerbreadths of dullness at the base of the right or left chest. With the salyrgan injection, a loss of three or four pounds in weight would ensue with relief of the dyspnea and disappearance of the basal dullness.

Besides the digitalis he received 15 grams of urea in 45 cc. of water every morning.

An accurate record of the salyrgan injections prior to September, 1932, is not available but from September 13, 1932, to June 29, 1933, he received 63 injections, usually of 2 cc. each. It is believed from a record of the number of ampules used that he has received well in excess of 150 injections in all between April, 1932, and December, 1933.

In a cardiac life that has been decidedly stormy at times, salyrgan apparently is this man's one dependable anchor to windward. The critical period of decompensation that supervened during its omission in the summer of 1932 suggests that he could not carry on his limited activities successfully without it.

SUMMARY

This is the report of a man, now 73, handicapped by arteriosclerotic heart disease, whose compensation is maintained by the accessory use of intravenous injections of salyrgan. In the past twenty months he has received at least 150 injections with no demonstrable ill-effects.

REFERENCES

1 Wolf, I. J., and Bongiorno, H. D.: Sudden death with salyrgan. Canad. M. A. J. 25: 73 (July) 1931.
2 Rosenthal, Maurice: The anatomic lesions of fatal mercurial intoxication from salyrgan. Arch. Path. 15: 352 (March) 1933.
3 Bernheim, E.: Über Dicodidwirkungen. Therap. d. Gegenw. 26: 142, 1924.
4 Valette, A.: Hydropisie combattue pendant plus d'un an par le novasurol. Rev. méd. de la Suisse Rom. 47: 976 (Nov. 25) 1927.
5 Agnew, G. H.: Salyrgan as a diuretic. Canad. M. A. J. 18: 45 (Jan.) 1928.
6 Wiseman, Joseph R.: The prolonged use of salyrgan as a diuretic. J. A. M. A. 99: 114 (July 9) 1932.

A NOTE ON THE HISTORY OF LEAD POISONING IN BOSTON*

BY REGINALD FITZ, M.D.†

TO my mind, part of the pleasure of pretending to be an amateur medical historian lies in the fact that one's imagination has so much scope. One can say and even believe many things which may or may not be strictly true and yet which appear incapable of contradiction. As an example of what I have in mind, take the matter of the history of Lead Poisoning. It is generally stated that the ancients knew a good deal about the dangers of lead and were familiar with the clinical manifestations of lead poisoning. Yet it was not until 1767 that Sir George Baker reported to the College of Physicians regarding the Devonshire Colic, and proved that the belly-ache which afflicted the cider drinkers of the South of England was due to contamination of their brew with lead. This report from the time it was read caused great discussion and therefore is properly regarded as an important addition to medical knowledge. Sir George's paper still is most interesting and convincing and I feel sure that the majority of doctors would agree with Dr. Ralph Major and list it as one of the classic descriptions of disease.

I have no desire to belittle Sir George Baker's keenness of observation. But, as a New Englander and a citizen of Boston, I resent it a little that we in Boston have not received so much credit as we deserve for our early efforts to avoid lead poisoning; certainly we were familiar with the dry colic and its cause, and enacted a law to prevent lead poisoning before Sir George Baker was old enough to be out of swaddling clothes.

My interest in the matter arose in the following way. A friend of the Library of the Harvard Medical School gave the Library just before Christmas a copy of Baker's "An Inquiry Concerning the Cause of the Endemial Colic of Devonshire." I had never seen the paper before and read it with considerable relish. One part of it particularly interested me. Toward the middle of the paper Sir George says: "Dr. Franklyn of Philadelphia informs me, that, at Boston, about forty years ago, leaden worms were used for the distillation of rum. In consequence thereof, such violent disorders were complained of by the drinkers of new rum, that the government found it expedient to enact a law, forbidding the use of any worms, except such only as were made of pure block tin. This law having been enacted, the dry colic was much less frequently heard of than before."

Now Benjamin Franklin was born in 1706, and Baker's contribution was read in 1767. So the law that Franklin remembered must have been passed before 1730; he could not have been very old at the time. Why did the law make such an impression on him that he remembered it all these years? Who in Boston at that early date was a sufficiently keen clinician to recognize lead poisoning and to write a law to prevent it?

One can easily believe that there was a good deal of lead colic around Boston at the beginning of the eighteenth century. Three bits of evidence support this belief.

There is another frequently quoted letter of

*Presented as a short play before the Harvard Medical Society, January 30, 1934.

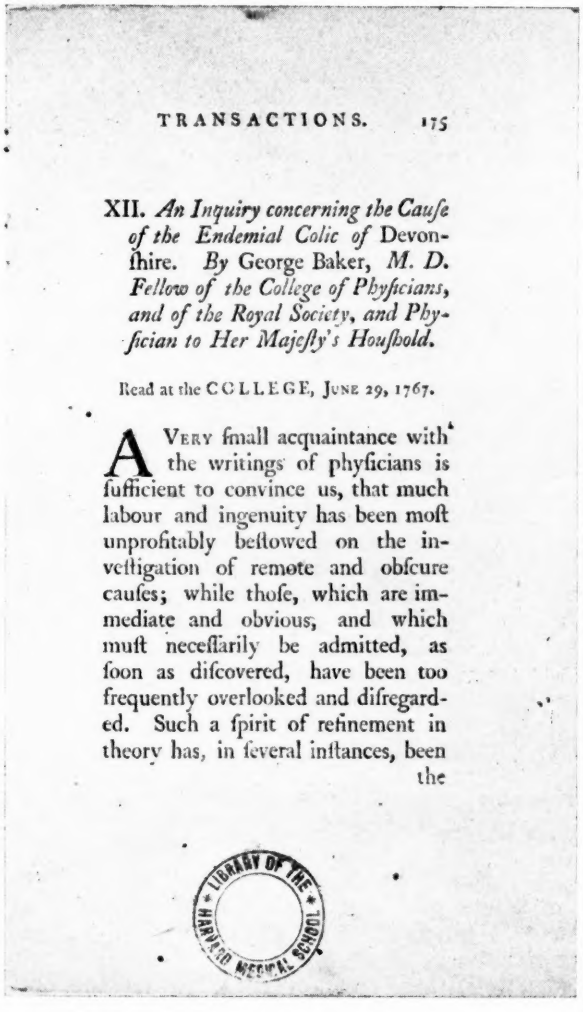
†Fitz, Reginald—Associate Professor of Medicine, Harvard University Medical School. For record and address of author see "This Week's Issue," page 817.

Franklin's on the subject of lead poisoning which, so far as I know, first received publicity in 1788 when John Hunter published it in a book called "Observations on the Diseases of the Army in Jamaica." It was written to a Mr. Vaughan and begins as follows:

"Philadelphia, July 31, 1786."

"Dear Friend,

"I recollect that when I had the great pleasure of seeing you at Southampton, now a twelvemonth since, we had some conversation on the bad effects of lead taken inwardly; and that at your request I promised to send you in writing a particular account



TRANSACTIONS. 175

XII. *An Inquiry concerning the Cauſe of the Endemial Colic of* Devonſhire. *By* George Baker, *M. D. Fellow of the College of Phyſicians, and of the Royal Society, and Phyſician to Her Majeſty's Houſhold.*

Read at the COLLEGE, JUNE 29, 1767.

A VERY ſmall acquaintance with the writings of phyſicians is ſufficient to convince us, that much labour and ingenuity has been moſt unprofitably beſtowed on the inveſtigation of remote and obſcure cauſes; while thoſe, which are immediate and obvious, and which muſt neceſſarily be admitted, as ſoon as diſcovered, have been too frequently overlooked and diſregarded. Such a ſpirit of refinement in theory has, in ſeveral inſtances, been the

LIBRARY OF THE HARVARD MEDICAL SCHOOL

FIGURE 1. First page of Sir George Baker's paper proving that the Devonshire Colic was caused by lead in the cider.

of several facts I then mentioned to you, of which you thought some good use might be made. I now sit down to fulfil this promise.

"The first thing I remember of this kind, was a general discourse in Boston when I was a boy, of a complaint from North Carolina against New England rum, that it poisoned their people, giving them the dry belly-ache, with a loss of the use of their limbs. The distilleries being examined on the occasion, it was found that several of them used leaden still-heads and worms, and the physicians were of opinion that the mischief was occasioned by that use of lead. The legislature of Massachusetts thereupon passed an act, prohibiting, under penalties, the use of such still-heads and worms thereafter."

More recently both Oliver Wendell Holmes and Samuel Abbott Green have attempted to reconstruct the early eighteenth century medical practice of New England and each mentions that cases of dry belly-ache seemed often to have been encountered by our colleagues. Green goes so far as to quote an advertisement which appeared in the *New England Courant* in December, 1722.

"For the Good of the Public, a certain Person hath a secret Medicine which cures the Gravil and Cholick immediately, and Dry Belly Ach in a little Time; and restores the Use of the limbs again, (tho of never so long continuance) and is excellent for the Gout. Enquire of Mr. Samuel Gerrish, Bookseller, near the Brick Meeting House, over against the Town House in Boston. N.B. The Poor who are not able to pay for it, may have it *gratis*."

Certainly this advertisement suggests that the "Dry Belly Ach" was common enough and that the association between it and paralysis was then generally recognized, the colic being more readily amenable to treatment than the palsy.

Finally old Dr. Holyoke in 1787, in a communication to the Massachusetts Medical Society, grew reminiscent. He says that in the early days of his practice the dry belly-ache was very frequent in Salem but lately had become unusual.

Admitting that colic was common in Boston before 1730, and even that the association between it and paralysis was known, yet the person who correlated these findings with the presence of lead in New England rum and enacted a law about it is still a mystery. I believe that something like the following episode took place.

There graduated from Harvard College in 1687, a man by the name of John Clark. His grandfather and his father had both been doctors, so perhaps being the third in line he came by successful doctoring rather naturally. In any event, this third John Clark was an able man of considerable influence in the community. He was a good preacher, and a fine doctor with a large practice. There was scarcely an important funeral in Boston which Dr. Clark did not attend in some capacity. Also he was a politician. He was Speaker of the House of Representatives for several years, and thus was familiar with the machinery of passing laws; he was an important figure in the House and was in the habit of getting through the legislature such bills as interested him. He had a remarkable brother-in-law whom he thoroughly appreciated, a man by the name of Cotton Mather. Mather was a truculent, belligerent soul, out of gear with most people, a born reformer, interested in all manner of things, thoroughly alert to everything that was going on, and bristling with energy. Although a minister by profession, he became involved in the attempt

to prevent by inoculation the ravages of smallpox in Massachusetts and thus came into intimate contact with Zabdiel Boylston one of the most far-seeing, progressive doctors in our history. These three men, undoubtedly, formed a strong triumvirate.

I can imagine them dining together at their favorite Tavern one day in the early winter of 1723. The fare was simple no doubt, but the conversation serious and interesting. Cotton Mather began it by saying what a pity it was that there was so much drinking nowadays; he had been shocked to discover that in Connecticut there had been excessive drinking among clergymen, even, and he thought such practices ought to be stopped. John Clark, keeping the ball of conversation in play, then remarked that he too was impressed with the apparent ill-effects of alcohol among his patients. It seemed to him, especially among the poor people who drank a good deal of new rum, that he was seeing an undue amount of dry belly-ache and that this often was followed by a peculiar muscular weakness, especially characterized by wrist-drop. He had begun to wonder whether these afflictions were not something more than a just dispensation of Heaven against the intemperate and to think that perhaps the rum which these people drank so freely contained a noxious element. This statement seemed to stir up Boylston. For Boylston said that just lately a young chap called Ben Franklin, the brother of that rascal Jim Franklin, the newspaper man, who was so bitter against inoculation, had paid a call on him. Jim, quite properly, had just been put in prison as everyone knew, for expressing certain radical views in his paper, the *New England Courant*. Ben* had decided to keep up the journal until his brother got out of prison and had made himself editor-in-chief and printer. He had determined to be a little circumspect regarding the sort of news he put forth because he had no desire to go to jail also. But the other day a rather startling rumor from North Carolina had come to his ears to the effect that the New England rum which was sold there was poisonous and was giving the people who drank it the dry belly-ache with a loss of the use of their limbs. Should he publish this rumor as an interesting item of news or would it be better policy to keep it dark?

Dr. Boylston went on to say that Ben Franklin, unlike his brother, appeared to be a decent young chap with a good deal of common sense. He had gone to some distilleries to see how rum was made. He found that rum was commonly distilled through leaden pipes into appropriate containers. These looked all right; certainly the rum looked all right, too, smelt all right, and tasted fine. But Franklin wondered whether there could be anything in the lead pipes that was harmful.

Dr. Boylston said that at first he was disinclined to take very seriously what Ben Franklin had said. But now he was beginning to wonder. It so happened that within the twelvemonth there had come to his attention a most interesting book. Medical books that came from the old country were few and far between, but

BERNARDINI

RAMAZZINI,

Mutinenſis, in Patavino Gymnaſio Practicæ Medicinæ Profeſſoris Primarii

OPERA OMNIA,

MEDICA, & PHYSICA.

CUM FIGURIS, & INDICIBUS NECESSARIIS.

GENEVÆ,

Sumptibus CRAMER & PERACHON.

MDCC XVI.

FIGURE 2. The title page of the 1716 Edition of the Collected Works of Bernardino Ramazzini, the first doctor interested in Industrial Hygiene.

one of his English friends had sent him a copy of a brand new one, the collected works of a Doctor Ramazzini, a professor of medicine in the University of Padua.

Ramazzini had certain ideas in relation to medicine that were altogether revolutionary: one of them was that certain trades were injurious to health, and he had classified the various illnesses to which workers in the different trades were liable. Apropos of what the Reverend Mather, Dr. Clark and young Franklin had been saying, Ramazzini's ideas on the type of sickness acquired by workers exposed to lead, like potters and painters, seemed most striking. Then Dr. Boylston fetched his copy of this new book and, translating freely from the Latin, read to John Clark and Cotton Mather the following quotations:

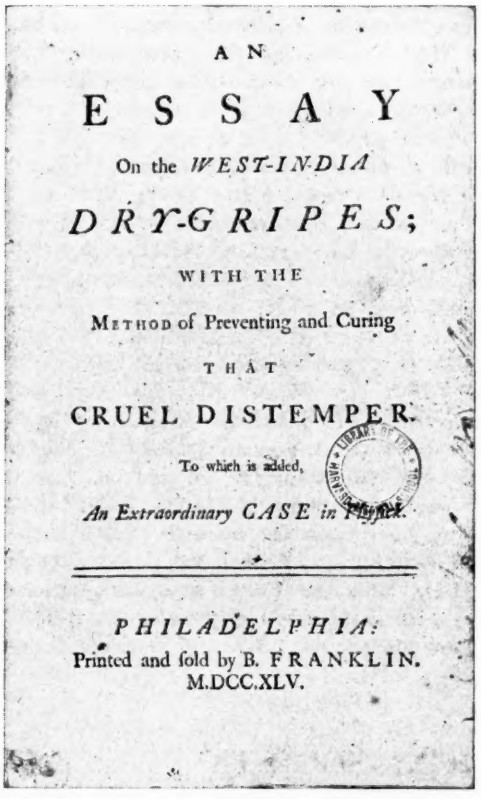
*The first copy of the *New England Courant* edited and printed by Benjamin Franklin was published February 11, 1723. It begins: "The late Publisher of this Paper, finding so many Inconveniencies would arise by his carrying the Manuscripts and publick News to be supervised by the Secretary, as to render his carrying it on unprofitable, has intirely dropt the Undertaking. The present Publisher having receiv'd the following Piece, desires the Readers to accept of it as a Preface to what they may hereafter meet with in this Paper."

"Of the Diseases of Potters."

"The potters use hot calcinated lead for glazing, grinding the lead in marble vases with a smooth piece of wood suspended from the ceiling of their workshop and fitted with a square stone at the other end. They then line the vases with molten lead, using brushes for this process, before they put them into the furnace to bake. During this time any poison which the lead contains in a liquid state is taken in by the potters to their mouth and nostrils and the whole body. In a short time they begin to feel seriously ill. First they find that their hands are trembling, and soon they become paralysed, splenetic, lethargic, consumptive, and toothless; hence one rarely sees a potter whose face is not ghastly and leaden."

"Of the Diseases of Painters."

"Painters are also subject to various diseases, such as trembling of the limbs, consumption, blackening


AN

ESSAY

On the *WEST-INDIA*

DRY-GRIPES;

WITH THE

Method of Preventing and Curing

THAT

CRUEL DISTEMPER.

To which is added,

An Extraordinary CASE in Physick.

PHILADELPHIA:

Printed and sold by B. FRANKLIN.

M.DCC.XLV.

FIGURE 3. Title page of Thomas Cadwalader's essay on The West-India Dry-Gripes. This essay contains a good clinical description of Lead Colic as it occurred among drinkers whose rum was impregnated with lead.

of the teeth, pallor of the face, melancholy, loss of the sense of smell. The principal cause of their sickliness is the material of their colors, which they have in their hands continually, and under their nostrils; such things as red lead, cinnabar, white lead, varnish, nut oil and linseed oil, which they use to temper their colors, and several other paints made of various minerals. Besides, when the painters are about their work they generally wear dirty and stained clothes, so they can not avoid taking in offensive exhalations at their mouth and nostrils. Fernelius mentions the curious case of a painter of Angers who was taken first of all with trembling in his hands and fingers. He soon had a convulsion, and then his whole arm was attacked by the same disease. This went then into his feet, and finally he was taken with such violent pain in his stomach and both the hypochondria, that neither clysters, fomentations, baths nor any sort of remedy gave him ease. The only relief he had in the violence of the fits was to have three or four men leaning with all their weight upon his belly, the compression of which lessened the torment."

John Clark and Cotton Mather were as much struck by these paragraphs as was Dr. Boylston. After due consideration and discussion they agreed that without doubt it seemed highly probable from these observations that lead, even in small quantities, might be very harmful if introduced over a long interval of time into the body. Finally, Cotton Mather, as a notorious reformer, glad to reform anything in sight, turned to John Clark and suggested how salutary it might be, particularly as it would make distilling more difficult and therefore less popular, for Massachusetts to be guided by Professor Ramazzini's belief, to issue a warning that lead was poisonous, and to have a law enacted which should prevent hereafter the use of lead pipes in the manufacture of rum. Boylston and Clark acquiesced. And so it happened that a law dealing with the regulation of the distillation of rum was proposed by Dr. John Clark and was passed and published on September 3, 1723. The law begins as follows:

"An Act for Preventing Abuses in Distilling of Rum and Other Strong Liquors, With Leaden Heads or Pipes.

"Whereas, the strong liquors and spirits that are distilled through leaden pipes are judged on good grounds to be unwholesom and hurtful; notwith-

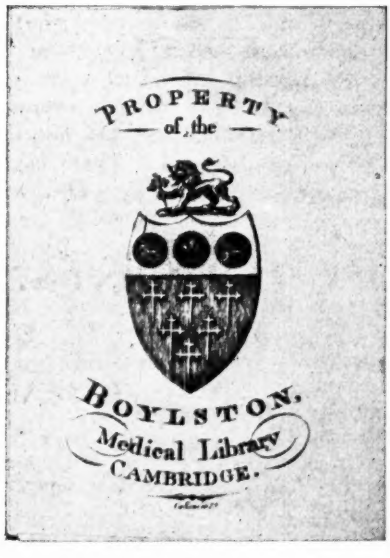


FIGURE 4. The Boylston Medical Library Book-Plate. This library is the chief foundation on which the present Harvard Medical School Library rests.

standing which some persons to save charge may be led into the making or using of such heads, worms or pipes; for remedy and prevention whereof,—

"Be it enacted by the Lieutenant-Governor, Council and Representatives in General Court assembled, and by the authority of the same,

"No leaden heads or worms to be used in distilling, upon penalty.

(Sect. 1.) That no person whatsoever shall make use of any such leaden heads or worms, for the future; and that whosoever shall presume to distil, or draw off any spirits or strong liquors thro' such leaden heads or worms, upon legal conviction thereof before any of his majestie's courts of record, shall forfeit and pay a fine of one hundred pounds.

"And be it further enacted by the authority aforesaid,

No braziers, &c., to make worms or heads of base pewter or lead. Penalty.

(Sect. 2.) That no brazier, pewterer or other artificer whatsoever, shall presume to make any worm or head, for distilling, of coarse and base pewter, or such as hath any mixture of lead in it, under the penalty of one hundred pounds."

My tale is not as altogether fanciful as it may sound. Lead colic in those days, after all, was typical and fairly easy to recognize. The nearest approach to a contemporaneous account of it as occurring among the rum drinkers of Boston is that given in 1745, by Thomas Cadwalader of Trenton.

In that year he wrote and had published by Benjamin Franklin "An Essay on the West-India Dry-Gripes with the Method of Preventing and Curing that Cruel Distemper" and described several cases which he had encountered. In the West Indies it was the habit to distil rum through leaden pipes so presumably Cadwalader's cases were much like those in Boston. The disease was attended with excessive griping pain in the pit of the stomach and bowels, "a Sensation as if the Bowels were drawn together by Ropes". There was likely to be some nausea and vomiting. Obstinate constipation was the rule. A palsy was likely to ensue when the patients would "lose the Use of their limbs, the ancles and Wrists becoming exceeding weak and the Balls of the Thumbs sinking". Occasional cases were met with which developed violent convulsions. John Clark and Zabdiel Boylston, certainly, were sufficiently practised clinicians to recognize when they encountered so striking a train of events.

There is no doubt but that the law which I have quoted was passed. There is no doubt but that John Clark had a hand in its passage. From the wording of the law one can reasonably conclude that the clinical manifestations and cause of lead colic were recognized by the doctors of Boston in 1723, many years ahead of the rest of the medical world. The passage of so sensible a law pertaining to Industrial Hygiene and Public Health at so early a date in our history is another pioneer medical accomplishment of our fathers, in which Bostonians may well take a justifiable pride.

Whether Cotton Mather, Zabdiel Boylston and Benjamin Franklin had anything to do with the affair is less certain. All I am sure of is what Franklin has written, that the copy of the edition of Ramazzini to which I have referred was published in 1716, and that it wears the book-plate of the Boylston Medical Library.

This library was established in Harvard College in 1802, by Ward Nicholas Boylston, a grand-nephew of Zabdiel. It is said to have been founded as a special tribute to the elder Boylston by the younger. I cannot trace the history of this particular volume. Perhaps this book may have been the nucleus of the Boylston Medical Library, may once have been owned by Zabdiel Boylston, have been studied by him, and used by him as I have suggested. Anyway, as I turn over its pages, I like to pretend that this is so.

VERMONT STATE MEDICAL SOCIETY

SYMPOSIUM

INTRACRANIAL LESIONS*

BY GILBERT HORRAX, M.D.†

Mr. President, Ladies and Gentlemen:

IN casting about for a subject upon which I might address you for half an hour, it was obvious that I could merely dwell on a few of the high points concerned with recent advances in the field of intracranial surgery. For this reason it would seem most practicable to take up the subject under the following headings:

1. Trigeminal neuralgia.
2. Congenital defects.
3. Infections.
4. Traumatic lesions.
5. Tumors.

Just a word about trigeminal neuralgia. It is our practice to be relatively conservative in respect to this condition, because notwithstanding the fact that many patients have a chronic recurring neuralgia for which they must have eventually the so-called radical operation of root

*Read before the Vermont State Medical Society at the Annual Meeting held in Barre, Vermont, October 5 and 6, 1933.

†Horrax, Gilbert—The Lahey Clinic, Boston, Massachusetts. For record and address of author see "This Week's Issue," page 817.

resection, nevertheless there are many milder cases which may be controlled easily and quickly, even though temporarily by simple means. In the mild early cases inhalations of trethylene (trichlorethylene) may be given at times with distinct benefit. Twenty to twenty-five drops of this drug should be inhaled by the patient while lying down, instructions being given to inhale deeply and with the patient lying on the side. This latter precaution is necessary since at times the inhalations may induce a momentary anesthesia in which case the gauze or handkerchief will fall away from the nose and no more will be inhaled. I have never known any deleterious effects from such a momentary anesthesia. Inhalations should be kept up regularly three times a day for several weeks unless the pain becomes severe, in which case the next step in our practice would be to give an alcohol injection. Although injections do not give permanent relief, we believe they should always be given at least once before root resection is performed. There are many reasons for this. In the first place, the patient ordinarily can be given immediate and complete relief from the extreme pain from which he or she is suffering, since the injection can be done in the office. In the second place, the temporary anesthesia produced by the injection gives the patient an idea of the peculiar feeling he will have permanently after root resection. This is important, because some patients find this numbness extremely disagreeable and complain of it afterwards as being almost as bad as their old pain. Thirdly, there are many patients who are far advanced in years and although they might go through the operation perfectly well nevertheless a simple injection which often stops their pain for one or two years may see them through their lives without the added risk of operation.

When injections become difficult or impossible because of the formation of scar tissue produced by the reaction of the alcohol, we must then divide the sensory root of the nerve. We believe the standard operation by the temporal route is the procedure of choice, since the suboccipital operation being entirely intradural almost certainly carries slightly greater risk.

Having thus briefly and necessarily imperfectly spoken of the treatment of trigeminal neuralgia, I may turn for a moment to some other intracranial conditions. Of congenital anomalies, I will speak of one only, namely oxycephaly. This is a rare condition caused by premature closure of the cranial sutures. Due to this fact the growing brain can expand in only one direction which is upward in the region of the anterior fontanelle. This gives the head in such children the peaked appearance known as tower skull. In all of these patients there is definitely increased intracranial pressure as evidenced by marked convolutional atrophy and a low grade of choked disks with gradually forming optic atrophy. In young children the procedure of choice is to remove large areas of bone from the skull without opening dura. This gives the brain a chance to expand normally while new bone is taking the place of that which has been removed. In older patients a unilateral or bilateral subtemporal decompression should be carried out in the usual way, the dura being opened widely over the temporal region.

Under infections there are two conditions which may have a surgical bearing, namely, non-meningococcic meningitis and brain abscess. Occasional cases of early meningitis have perhaps been cured by laminectomy and drainage of the subarachnoid space, but on the other hand about an equal number have gotten well after repeated lumbar punctures. Concerning brain abscess let me emphasize one or two points. Multiple metastatic abscesses, so far as I know, cannot be helped by any means. Single encapsulated abscesses, especially if they can be approached where they come close to the surface of cortex offer a very good chance of cure. Brain should be removed down to the upper pole of the abscess and the latter aspirated with as fine a needle as possible. The abscess wall should then be opened by crucial incision and the four flaps thus created sewed to the subcutaneous tissues. This creates the abscess into a pouch and it will thus drain perfectly. Gutta-percha tissue is laid in the cavity and into this a piece of gauze is packed lightly merely to hold the pouch open. Dressings are then done every other day, and, as the brain around the abscess cavity expands, the abscess wall is gradually pushed outward, thus little by little extruding the drain which may be cut off from time to time. During this time brain and abscess wall will bulge out in the form of a fungus but when the drain has been extruded entirely, the fungus which has by this time granulated over, will recede by itself as epithelium covers it. It is, therefore, not necessary to do anything with such a fungus except to dress it with some smooth material like gutta-percha tissue and keep pressure from it.

Injuries. Certain aspects of head injuries were dealt with by your president in his opening address and I shall, therefore, confine myself to two of the complications for which one must be on the lookout under some circumstances. Extra-dural or meningeal hemorrhage, as you have heard already, occurs shortly after an injury which ordinarily has caused a linear fracture in the temporal region. It is a surgical emergency and must be dealt with promptly. There is another type of slowly developing clot, however, which may not manifest itself for weeks or months after the accident, and it is almost characteristic of this condition

that the injury which causes it is relatively slight. This is the subdural hematoma, formerly called pachymeningitis hemorrhagica interna. After a free interval of a week or two up to several months, the patient usually has headaches which become increasingly severe, sometimes of agonizing severity. There may be also vague mental changes and, rarely, outspoken neurological signs together with choked disks. The differential diagnosis must be made of such a clot and the more frequent conditions of post-traumatic headaches of other origin. In most instances, this must be done by a small trephine opening over the postparietal region on either side of the median line. If a clot is present, the dura will be discolored a greenish blue and upon opening the dura the grey, connective tissue membrane which surrounds the hematoma will present. This membrane should be incised and if the clot has liquefied it may be allowed to evacuate itself so far as possible after which a small soft catheter may be introduced and the soft portion of hematoma further sucked out. If it is solid a bone flap must be turned down and the hematoma with its enclosing membrane evacuated. The mortality from these operations is relatively very low and as a rule, complete convalescence ensues.

Another, though much rarer complication of certain head injuries is the condition of intracranial aerocele. It is particularly likely to happen in extensive injuries involving the frontal and ethmoid sinuses. The patient may do very well for a time and then after sneezing or coughing, headache develops. X-rays will then show the collection of air, which is not only within the cranium but as a rule within the brain substance. In these patients there is a traumatic fistula through the dura into the brain communicating with either the frontal or ethmoid sinus. If nothing is done, the air almost inevitably ruptures into the lateral ventricle, cerebrospinal rhinorrhea is established and a fatal meningitis follows. The treatment is prompt operative intervention, in which the fractured area is reëxplored, the fistulous opening sought for and closed either by suture or by placing a piece of muscle or fascia over it, thus sealing it off. The air will then gradually absorb.

Tumors. There is such a short time left to deal with this large subject that I shall confine my remarks to a few of the many groups of tumors about which we have learned a good deal during the past ten years especially.

Gliomas, as you doubtless know, constitute the largest single group, contributing some 40 per cent of all brain tumors. In adults there are two principal types, the glioblastomas and the astrocytomas. The former are the malignant, infiltrating growths and little can be done for them unless they are fairly small and occupy a silent area of the brain such as one of the occipital or frontal lobes or the right temporal lobe. In such instances, the whole lobe may be excised with the tumor, but even then it may be found that growth has spread beyond the limits of excision, and recurrence, therefore, will take place. The astrocytomas are more slowly growing and less infiltrating. They may be solid or cystic. If solid, they must be dealt with as radically as possible, excising as much cortex around them as can be accomplished without getting into important areas. If they are largely cystic, they offer a better prognosis inasmuch as the cyst can be emptied and the solid portion of growth in the cyst wall excised. Such cases may be completely cured.

In children, there are likewise two main forms of glioma, both occurring in the cerebellum. The medulloblastomas are the malignant type, but as these tumors are highly radiosensitive the patient may often be given a period of one to two years of excellent health. The ultimate prognosis, however, is bad. The other type, as in adults, is the astrocytoma, but in children these are usually cystic growths and may often be successfully dealt with by excision of the nodule of tumor within the cyst.

Another large group of brain tumors are the meningiomas. These are the well encapsulated, solid growths occurring almost without exception in adults. Successful extirpation of these tumors usually results in complete cure, but as they, together with the overlying bone and dura are extremely vascular, the operation may be one of the most difficult that a neurosurgeon is called upon to perform. Meningiomas in the motor area frequently cause focal convulsions of the opposite side of the body, either with or without symptoms of increased intracranial pressure. Furthermore, these growths in any situation, tend to give bony changes which may be recognized by the x-ray. These changes are most often in the form of bony proliferation, sometimes seen as a localized area in the cranial vault directly over the meningioma, while at other times there may be thickening along the base at the site of attachment of tumor to dura. One particular variety causes such thickening of the posterior orbital wall as to give the patients a marked protrusion of the eye on the affected side.

The last group of tumors of which I wish to speak are those arising from the sheath of the acoustic nerve. These are the typical cerebellopontile angle tumors. Patients harboring this type of growth present a definite train of symptoms and neurological findings which are almost pathognomonic. Their history begins with tinnitus followed by gradually increasing deafness in one ear. After an interval of months or even

years, cerebellar symptoms such as unsteadiness in walking or difficulty in the use of the hands may arise. These are often preceded by a feeling of numbness on the side of the face corresponding to the deaf ear. Finally headaches occur followed by failure of vision and in the end difficulty in talking and swallowing. Neurological examination confirms objectively the symptoms complained of and the ophthalmoscope reveals bilateral choking of the disks if pressure is far enough advanced.

Although acoustic tumors are benign, encapsulated growths, nevertheless they are difficult of access in the cerebello-pontile angle. An intracapsular enucleation is about the best that can be hoped for in most instances, but many times this is sufficient to give a period of many years' relief from symptoms.

MISCELLANY

SPECIAL MEETING

Under the combined auspices of the University of Vermont and Vermont State Medical Society a special clinical meeting will be held in Burlington, Vermont, May 4 and 5. A full program will be sent in due time to each member of the State Society.

VERMONT DEPARTMENT OF PUBLIC HEALTH

FEBRUARY, 1934

The incidence of communicable diseases during the month of February is as follows: chicken pox 228, diphtheria 3, measles 238, mumps 32, poliomyelitis 1, scarlet fever 58, typhoid fever 3, undulant fever 2, tuberculosis 10 and whooping cough 155.

A total of 1,228 examinations was made by the Laboratory of Hygiene in February, classified in the following manner:

Examinations for diphtheria bacilli	92
" " Widal reaction of typhoid fever	30
" " undulant fever	14
" " gonococci in pus	95
" " tubercle bacilli	170
" " syphilis	438
" of water, chemical and bacteriological	23
" " water, bacteriological	184
" " milk, market	88
" " milk, submitted for microscopical only	0
" " milk, submitted for chemical only	9
Examinations of foods	2
" " drugs	0
" for courts, autopsies	2
" " evidence of rabies (animal heads)	0
" " evidence of malaria	1
" miscellaneous	71
" for courts, miscellaneous	7
Autopsies to complete death returns	2

Twenty-four cases of gonorrhea and twenty-one cases of syphilis were reported to the Division of Venereal Diseases. Seven hundred and four Wassermann outfits and 356 gonorrheal slides were distributed during the month.

Eighty-two patients were seen during February by the Poliomyelitis After-Care nurses, four doctors were consulted, five social service calls made, five plaster casts removed, three patients were admitted to the Children's Hospital and four discharged from the same hospital. One patient was admitted to the Audubon Hospital and two discharged from this hospital. Three new pieces of apparatus were fitted and 12 orthopedic corrections made to shoes. The vocational worker of this division reports sales made by the patients amounting to $22.42.

BURLINGTON AND CHITTENDEN COUNTY CLINICAL SOCIETY

The following is the report of the Secretary of the meetings held by the Burlington and Chittenden County Clinical Society since November, 1933:

At the December 21st meeting, Dr. Truax gave a very interesting paper, the subject of which was "Gentian Violet Treatment of Cutaneous Burns." He outlined the advantages of this treatment in the more severe types and brought to the attention of the members the fact that these burns should not be covered with ointment before being sent to the hospital as it makes treatment more difficult for the attending surgeon.

Dr. F. L. Hall of Grand Isle was elected to membership.

At the meeting on February 15, Torr Wagner Harmer, M.D., Chief Surgeon, Out-Patient Department, Massachusetts General Hospital, presented a paper on "Hand Surgery," which was divided into three sections, as follows: 1. Infections. 2. Trauma. 3. Reconstruction. This paper was ably illustrated by many lantern slides. Dr. Harmer brought to the attention of the members the fact that a thorough knowledge of the anatomy of the hand is vitally important to anyone doing this type of surgery.

Dr. Harold L. Medevitsky was elected to membership.

NEW HAMPSHIRE MEDICAL SOCIETY

ONE HUNDRED AND FORTY-THIRD ANNUAL MEETING

Preliminary Announcement

Doctor Dean Lewis, President of the American Medical Association and Professor of Surgery at the Johns Hopkins Medical School, Doctor Walter C. Alvarez of the Mayo Clinic, Doctor Frank E. Adair, of New York City, and Doctor S. A. Petroff, of Saranac, will be among the out-of-state guests at the annual meeting of the Society, which will be held at the Hotel Carpenter, Manchester, on May 15 and 16, 1934.

All meetings will be held on Eastern Standard Time.

With the President, Doctor Robert J. Graves of Concord, in the Chair, the scientific sessions will open promptly at 10 o'clock (A.M.), on Tuesday, May 15 and continue with morning and afternoon sessions Tuesday and Wednesday. The afternoon sessions will begin at 2:00 o'clock. On Tuesday evening there will be an entertainment in the Assembly Room for the members of the Society and the members of the Women's Auxiliary. On Wednesday evening the usual banquet will be held with Dr. James J. Powers, of Manchester, acting as Anniversary Chairman.

On Tuesday morning there will be reports of committees. Full details will appear in the *Journal* next month.

On Tuesday afternoon, May 15, at 2:00 o'clock there will be a symposium on Pulmonary Tuberculosis. Doctor Petroff and Doctor Deming, of Glencliff, will consider the medical aspects; Doctor Richard Overholt, of Boston, will discuss the surgical aspects and Doctor A. S. Merrill, of Manchester, will describe the x-ray findings.

On Wednesday morning, May 16, beginning at 10:00 o'clock, Doctor William P. Murphy, of Boston, will speak on Anemia, and Doctor Dean Lewis will follow with an address to the Society. On Wednesday afternoon, beginning at 2:00 o'clock, Doctor Alvarez and Doctor Adair will be on the program. The usual number of papers with discussions will complete the programs on both days. Several of the out-of-state guests will be present and speak at the banquet.

The first meeting of the House of Delegates will be held Monday evening, May 14, at 7:30 o'clock at the Hotel Carpenter and all subsequent meetings will be at the same place. Henry C. Sanders, Jr., of Claremont, will be the Acting Speaker.

The usual exhibition of surgical instruments, x-ray appliances, drug specialties and books will be held in the hotel lobby.

All arrangements for the meetings and exhibits are under the management of the Manchester Medical Society: Howard A. Streeter, Chairman.

The Women's Auxiliary will hold its Annual Meeting during our sessions. Its members and other visiting women will be entertained by the Committee on Entertainment of Visiting Women.

A detailed program will be printed in the *Journal* next month and will be mailed to all members of the Society.

ROBERT J. GRAVES, *President.*
CARLETON R. METCALF,
Secretary-Treasurer, Pro Tem.
HENRY C. SANDERS, JR.,
Acting Speaker of the House of Delegates.

GOLD MEDALISTS

Gold medals will be presented to Leonard Jarvis, of Claremont, and to George E. Leete, of Concord, who have attained fifty years' membership in the Society.

NEW MEMBERS

Bassow, G. W., East Jaffrey
Bennert, H. W., Goffstown
Benway, C. A., Bristol
Burroughs, T. P., Concord
Butterfield, Warren H., Concord
Crisp, N. W., Nashua
Daniels, B. P., Keene
Eades, G. R., Keene
Eastman, C. D., Monroe
Goodlett, W. C., Lisbon
Goodman, P., Nashua
Hamel, P. R., Manchester
Harrington, W. J., Manchester
Hernandez, R. A., Laconia
Jacques, Laura, Tilton
Jones, R. N., Whitefield
Kasheta, F. J., Warren
LaFrance, Phillip, Laconia
LeBlanc, J., Suncook
McDonald, W. J., North Conway
Murphy, R. L., Manchester
Nolin, Francis H., Claremont
Norris, J. L., New London
Phillips, Arthur, Potter Place
Precourt, W. E., Somersworth
Prevost, G. E., Keene
Prince, W. M., Durham
Rahmanop, W. B., Dover
Robbins, M. J., Nashua
Robinson, Norris, Keene
Sanders, James, Rye
Shields, J. D., Concord
Sikorsky, Lucy N., Claremont
Spring, J. D., Nashua
Stewart, Melba, Laconia
Thibodeau, W. D., Nashua
Wiggin, Chester M., Conway
Wozmak, C. F., East Jaffrey
Wroblewski, W. G., Nashua.

RESIGNATIONS

Israeli, Clara, Philadelphia, Pa.
Macleay, A. A., Manchester
Sidis, Sarah M., Portsmouth
Woodman, A. B., Springfield, Vt.

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE MORTEM AND POST MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 20151

PRESENTATION OF CASE

A thirty year old divorced American laundry worker entered complaining of profuse vaginal bleeding.

Her menstrual periods had always been regular until nine years before entry. At that time without any known cause her periods became irregular, occurring every two to four months and lasting for several weeks or months. The amount of bleeding greatly exceeded that of her usual periods. A surgeon removed several uterine polyps at that time. For the next year she had no bleeding at all and felt much better; then the same symptoms recurred. She also complained at that time of a dull dragging feeling in the lower abdomen, but no actual pain. Two years before entry she received four x-ray treatments without relief. Her condition remained about the same until six or eight weeks before entry, at which time the bleeding became worse, requiring four heavy pads a day. She felt very tired and was forced to give up work. Two weeks before entry she fainted. A doctor packed her uterus. Since that time she had had two other packings. The weakness increased and was often associated with periods of dizziness. During the last two weeks before entry she had occasional nausea and vomiting, and dull lumbar backache relieved by standing up.

She had gained about forty pounds during the past five years and stated that she had felt rather apathetic and had lost interest in her surroundings, although her memory and intellect remained as before. There was no enlargement of her tongue or difficulty in speaking.

Her father, mother, three brothers and three sisters were all living and well. There was no family history of diabetes, cancer, insanity or typhoid fever.

She was married fourteen years before entry and was divorced nine years later. Her husband had tuberculosis. There were no pregnancies.

She had an appendectomy sixteen years before entry. Her catamenial history was normal. Periods began at the age of twelve and were regular until the onset of her present illness.

Physical examination showed a well developed, very obese, pasty woman, weighing approximately 190 pounds. Her hands and feet were very small. She wore a size four shoe. Most of her obesity was abdominal and thoracic. The breasts were large and pendulous. The thyroid was palpable, moderately soft and symmetrical. There was extreme tenderness over the midlumbar spine. The abdomen was large, flabby, and showed striae albicantes. There was slight tenderness in the left lower quadrant. The fundus of the uterus was palpable. There was profuse vaginal bleeding.

The temperature was 98.4°, the pulse 85. The respirations were 20.

Examination of the urine (not a catheter specimen) was negative except for occasional white blood cells. The blood showed a red cell count of 3,890,000, hemoglobin 60 per cent, and a white cell count of 14,350, with 72 per cent polymorphonuclears. Examination of the stools was negative. The clotting time was three minutes. The bleeding time was not prolonged. The basal metabolic rate was —15. The blood calcium was 10.19 milligrams per 100 cubic centimeters, the phosphorus 3.72.

X-ray examination of her skull showed a normal sella turcica. There was some increase in porosity of the bones of the skull; otherwise they showed no variation from the normal.

She was given iron and ammonium citrate grains xxx three times a day. Five days after admission she was given ten subcutaneous doses of autophysin, one hundred units daily. During this treatment there was practically no appreciable rise in temperature, although at times she felt dizzy and weak, and there was no appreciable diminution in her vaginal bleeding. She felt very weak and complained of severe left lower abdominal cramps. On the nineteenth day dilatation and curettage was done.

DIFFERENTIAL DIAGNOSIS

DR. GEORGE A. LELAND, JR.: It appears that this patient is a woman of thirty who for one half of her normal menstrual life has had abnormal uterine bleeding. In spite of the fact that according to the record there were no pregnancies, I do not think one can exclude the possibility that we may be dealing here with one of the abnormal bleedings incident to pregnancy. The retained placenta in an interrupted pregnancy may produce very prolonged bleeding. On the other hand one would not expect such a situation to last for nine years.

It was noted that in the early part of her history a doctor removed several uterine polyps. That, if true, is very important. It is rather unusual to make the diagnosis of multiple uterine polyps. Multiple cervical polyps are not rare and can be easily diagnosed without opening the uterus. The diagnosis of multiple uterine polyps usually requires a hysterotomy either on the operating table or on the pathologist's

table. If there were multiple tumors removed by this physician one wonders if they were typical polyps or of the hydatidiform mole type. However, we will let that go by and assume that the history is correct, that there were no pregnancies and that the duration of the bleeding excluded the suspicion that it might be caused by pregnancy.

In a woman of thirty, cancer cannot be excluded. About four per cent of all cancers of the cervix occur in women of thirty years or younger. But here again the duration of the bleeding symptoms is too long to indicate that we have a cancer of the cervix. No mention is made of the cervix in the report of the physical examination. Whether it was palpated or not we do not know. Adenocarcinoma of the uterus is extremely rare but not unknown in women of this age. There again we would not suppose that adenocarcinoma would account for all the symptoms. Suppose, however, that she had had uterine polyps at one time and that they have recurred; it would not be impossible to have a later development of adenocarcinoma superimposed upon recurring uterine polyps.

A third condition to be considered is the question of thrombopenic purpura. In most cases of thrombopenic purpura however in women of this age the periods are not so irregular as they were here. In a typical case the bleeding is prolonged with each period, but the periods are regular. Then too we would expect a story of bleeding from other organs. In this case we have the blood examination showing that the bleeding time was normal. These negative findings would seem to rule out thrombopenic purpura as a possibility.

Coming to the pelvis itself, we have a history of uterine polyps. We have upon physical examination the finding that the fundus of the uterus was palpable. A uterine fundus palpable through an abdomen which was very obese would indicate definitely that the fundus must be considerably enlarged. One must not forget the possibility however that the palpable mass was not the fundus at all, but an ovarian tumor. If the story that there were polyps is true, with this finding of enlarged fundus one has the right to assume that this patient at the time of her entrance had multiple fibromyomata of the uterus, probably with recurrent polyps with, possibly, superimposed adenocarcinoma.

When we take the story as a whole and examine the physical condition critically we find that the most striking thing of all is of course the great weight of the patient. The distribution of the fat combined with the small hands and feet—(the shoe was size four, distinctly the Cinderella type)—this disproportion of the hands and feet to the fat chest, abdomen and pendulous breasts of course brings up at once the question of pituitary disturbance. We find that the basal metabolic rate has been interfered with, and going farther down the abdomen we find that there is distinct evidence of pelvic pathology.

To piece these findings together, I merely recall to your mind that investigative work in recent years has indicated a very definite association between uterine polyps, fibromyomata, and cystic degeneration of the ovaries. The multiple follicular cysts which produce estrin seem to have, in a carefully worked out series, a very close relationship possibly with the formation of fibroids. It has been pointed out that pituitary disturbance will appreciably affect and maintain the permanence of these cysts. So we would hazard a diagnosis in this case of fibromyomata of the uterus with uterine polyps associated with bilateral cystic ovaries with a background of pituitary disease, bearing in mind the remote possibility that adenocarcinoma of the uterus may likewise be superimposed.

Dr. Joe Vincent Meigs: I think that Dr. Leland has covered the subject very well.

There are two or three things that strike me. One is the lowered metabolism. Some patients with myxedema have abnormal bleeding. Another is that this bleeding might be explained on two bases. One is that she has follicular cysts of the ovary containing estrin, which could be responsible for hyperplasia of the endometrium, which in turn might be responsible for the bleeding, as Dr. Leland has just suggested. Another is that she might possibly have a corpus lutein cyst of the ovary or a persistent corpus luteum which would account for her forty day interval between periods and the large amount of flowing at the time she did bleed. There might be an endometrium decidual in type without pregnancy, due to the persistent lutein action.

I do not know whether this is the case here or not, but I remember a patient whom I saw some time ago, a woman who had abnormal bleeding of this type and who had had a trial with the luteinizing hormone and did not respond. She had carcinoma of the endometrium at twenty-nine or thirty years of age. I think that is a very distinct possibility in this case. Also we must bear in mind that the so-called granulosal cell type of carcinoma of the ovary secretes estrin, and like simple follicular cyst causes hyperplasia of the endometrium and abnormal bleeding. The description of the patient herself suggests some pituitary dysfunction.

Diagnosis

Adenocarcinoma of the uterus.

Pathologic Discussion

Dr. Tracy B. Mallory: The patient was curetted and the curettage showed material that in gross was obviously carcinoma. Following that she had a hysterectomy. The uterus shows a well-marked adenocarcinoma of the fundus.

The ovaries were not enlarged and contained no cysts of any significant size and no corpora lutea.

The long period of purely functional bleeding in this case with the marked suggestion of pituitary disturbance would tremendously tempt one to consider it solely a functional case.

The possibility of carcinoma even at such a very early age is well worth emphasizing. It certainly was fortunate that at least at the second curettage a diagnosis of carcinoma was made. It certainly suggests that the carcinoma developed on the basis of long-standing hyperplasia.

Dr. Aubrey O. Hampton: I should like to ask Dr. Meigs what bearing he thinks the x-ray treatment would have on the diagnosis. She had a sterilizing dose of x-ray.

Dr. Meigs: If the patient did not respond to this treatment, carcinoma should be considered in spite of a negative curettage.

I think the important lesson to learn, and one that we all ought to learn now that we are using hormone treatment, is that it might be very easy to treat a patient with cancer. If you have made up your mind that the bleeding in a case should respond and the hormone does not make it respond, there is a great necessity to find out whether there is any malignant lesion present or not.

CASE 20152

Presentation of Case

A thirty-five year old Lithuanian housewife entered the hospital complaining of excessive uterine bleeding.

Her menstrual periods began at the age of thirteen or fourteen and were regular, occurring every three weeks and requiring two or three pads a day. She had no pain and no leukorrhea. Nine months before admission she had flowing for three weeks and again the following month had excessive flowing. The next month she had no menstrual period, but the following month, six months before admission, she again had excessive flowing. She missed the next two months. Three months before admission she had excessive flowing. The following month the period lasted two weeks. Two weeks before admission flowing began and had continued ever since. She passed a few clots. At no time was there any pain or discomfort in the pelvis or back. During the week before entry she had used from four to seven pads daily and felt somewhat weak. Her bowels were constipated. Her appetite was good. There were no urinary symptoms.

She had always been well. There was no history of scarlet fever, diphtheria or rheumatic fever. About three weeks before admission following an automobile accident she had excessive flowing. At that time she had dilatation and curettage at a hospital. Following this her periods were normal until the onset of her present illness.

Her husband and one child were living and well. There had been no miscarriages.

Physical examination showed a well-developed and well-nourished woman. There was an occasional extrasystole and a soft systolic murmur at the apex. The blood pressure was 110/70. The lungs were clear. Examination of the abdomen was negative. Vaginal examination showed a large amount of old blood in the vagina. The cervix was lacerated but was not well visualized. It had an eroded, lacerated, granular feeling by digital examination. The fundus of the uterus seemed slightly larger than normal. The vaults were clear.

The temperature was 98°, the pulse 95, the respiratory rate 20.

Examination of the urine showed a specific gravity of 1.034. The sediment contained an occasional white blood cell and large numbers of red blood cells. Examination of the blood showed a red cell count of 4,600,000, hemoglobin 70 per cent. The white cell count was 7,500, with 62 per cent polymorphonuclears.

On the fourth day operation was done, a trachelorrhaphy, supravaginal hysterectomy and right salpingo-oophorectomy. She ran an uneventful convalescence except for a slight fever and slight urinary incontinence. She was discharged on the twenty-first day.

Clinical Discussion

Dr. Henry H. Faxon: In many respects this case is similar to the one that Dr. Leland discussed, and I think that my mind worked in part along similar lines.

She was thirty-five years old, which puts her in the possible cancer age and also at the approach of the menopause possibly. Her menstrual history had been normal, menstruation starting at the usual time and the flow being regular, although she had run on a three-week cycle; in other words at a shorter interval than the normal twenty-eight days, which would suggest possibly the lack of luteinizing hormone even from the start. She had no pain and no leukorrhea, which suggests no pressure in the pelvis, no pelvic inflammation, and no discharge that might come from the cervix. The story of her periods per se was essentially that of menorrhagia and skipped periods. The automobile accident aggravated the condition, but I think was incidental rather than causative in any way.

There is mention here that she passed clots. I think no especial significance need be laid to this, although with fibroids the passing of clots is of more frequent occurrence than when they are not present.

Her bowels were constipated, but from that one statement alone no special conclusion can

be drawn. We do not know whether she was becoming any more constipated or whether constipation was the rule in her case. If it had increased it might suggest pressure in the pelvis, but the physical examination failed to disclose any such pressure. There are no urinary symptoms.

The past history shows no disease that might have sequelae.

She had a dilatation and curettage about a month before she entered. The physical examination we are given leaves something to be desired in the situation. We should like to know what the condition of the cervix was, the size of the uterus, and so forth. It seems to me that if she had been recently curetted and examined under ether we might well exclude the possibility of carcinoma of the cervix. She had no discharge between periods and no vaginal bleeding. I am inclined to think the dilatation that was done a month before helps us to exclude certain pelvic pathology. It is of interest that the dilatation did not correct her condition. After two weeks she again had an abnormal amount of flowing.

She had been pregnant. From the story here we do not know how long she had been married or what the age of the child was, but the story is that of only one pregnancy. The question comes up as to the possible causes for sterility, and we wonder whether there was a pelvic inflammation of which we have no evidence, or whether a certain amount of ovarian dysfunction might be the cause of her having only a single pregnancy.

The fact that she had no miscarriage helps to rule out lues.

The blood pressure, the extrasystoles and the soft systolic murmur can be explained on the basis of her blood loss.

On pelvic examination the cervix was lacerated but not well visualized. As I have said, I should think that any gross pathology would have been discovered at the time of the previous examination and curettage.

We are told that the uterus was slightly larger than normal. The explanation is either that the uterus was actually normal and the fundus contained a large amount of blood clot, that possibly not the fundus of the uterus but the ovary was being palpated, or else that she had some growth within the fundus of the uterus itself.

The urinary findings are a little confusing. A large number of red cells was reported, but we are not told whether that was confirmed by a second catheter specimen. It seems to me that if real significance (other than vaginal contamination) had been attached to the urinary finding of blood, further investigation would have had to be done to make a definite diagnosis.

The blood showed the red cell count to be 4,600,000, which signifies that she had no marked anemia in spite of the continued bleeding.

The white cell count was 7,500, showing no evidence of infection or twisted pedicle that might have shut off the blood supply of a pedunculated fibroid or ovarian cyst.

It seems to me that the bleeding in this case may have been due to some general blood disease of which we have no evidence, to functional causes, organic causes, or a combination of the latter two.

So far as pregnancy and miscarriage go, the story is too long, and furthermore the dilatation and curettage rules out the possibility of incomplete miscarriage.

Indirectly the pituitary, or thyroid, or some endocrin gland may have played a part, but there is no evidence of a lowered metabolic rate or of any disturbance of the pituitary.

As for an ovarian tumor, it would seem to me that if a cyst of any appreciable size had been present when they examined her under ether they would have been able to detect it.

Pelvic inflammation has been fairly well ruled out on the story and the absence of confirmatory physical findings.

Malignancy of the cervix I think has to be excluded by the previous dilatation and curettage. As to malignancy of the fundus, as Dr. Leland pointed out in his case, she is a little young to expect that, and furthermore one would expect that, at the previous dilatation and curettage, diagnostic curettings would have been obtained. A polyp of the cervix could be mentioned, but that again is excluded for the same reasons.

The points that have been brought out as to the relation between the ovarian function and the occurrence of fibroids are interesting and have been amplified and explained here already.

I arrive at the conclusion that the most likely cause of her bleeding was a fibroid of the uterus which was probably submucous and hard to detect both by examination and curettage. If it was associated with multiple cysts of the ovary there would be a rational explanation for the operation of supravaginal hysterectomy and right oöphorectomy that was done. The removal of a single ovary suggests to me that possibly the right ovary was filled with small cysts, whereas the other was of the small sclerotic type. My diagnosis here would be fibroid of the uterus with multiple cysts of the right ovary.

DR. GEORGE A. LELAND, JR.: Dr. Faxon's reasons are very logical. One should have personal knowledge of the surgeon who did the preliminary diagnostic curettage a month before admission in order to be certain in excluding the various serious possibilities. Upon curettage it is very easy to fail to find adenocarcinoma of the fundus, and it is not too dif-

ficult to fail to find a very early carcinoma of the cervix. We assume in this instance that the operator did know the man who did the curettage and was confident that the negative findings were in those two respects correct. I am wondering however that the surgeon was bold enough to leave in the cervix when he was going to remove the fundus, assuming that he found fibroids with estrin producing follicular cysts of the ovaries. If he is going to leave in one ovary, he is leaving in with it the cervix and perhaps some endometrial tissue as well. This is a cervix which is already known to be lacerated. There has been one childbirth. It appears to me that in such a procedure there is a slight potential risk of later trouble arising in that cervix.

Dr. Joe Vincent Meigs: I have very little to say, except that I think the history of skipped periods and then much flowing is quite characteristic of the Shaw group I type of bleeding, in which there are follicular cysts of the ovary, absent corpora lutea, and marked hyperplasia of the endometrium. I also think this type of bleeding could be explained by pelvic inflammatory disease, where follicular cysts of the ovary are not uncommon.

Diagnosis

Menorrhagia.

Pathologic Discussion

Dr. Mallory: The surgical specimen which was removed showed a diffusely enlarged uterus with a markedly hyperplastic endometrium. There was no fibroid. The one ovary which was removed contained, as predicted, multiple follicular cysts and no corpora lutea. Unfortunately we do not know positively what may have been present in the opposite ovary. The findings, so far as they go, fit perfectly into the Shaw group I type of functional bleeding.

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ARCHIVES OF PEDIATRICS SEMI-CENTENNIAL NUMBER

THE *Archives of Pediatrics* having been the first journal on the diseases of infants and children published in the English language, its present editors have commemorated its semi-centenary—the original number appeared on January 15, 1884—by devoting the issue of February, 1934 to the reproduction of certain articles appearing in it during the course of its first year.

The cover of the first issue is reproduced; an issue appearing under the editorship of William Perry Watson, A.M., M.D., Physician for Diseases of Children to the Central Dispensary and Assistant to Christ Hospital, Jersey City, N. J. The collaborators at that time were J. Lewis Smith of New York, J. M. Keating of Philadelphia, F. Forcheimer of Cincinnati, Marcus P. Hatfield of Chicago, Henry D. Ingraham of Buffalo, Joseph P. Oliver of Boston, Edward Borch of St. Louis, William T. Plant of Syracuse and Jerome Walker of Brooklyn. Foreign countries were represented by Goodhart of London, Finlayson of Glasgow, Ashby of Manchester and Blackader of Montreal.

Following are a number of original communications: Convulsions in Children by William T. Plant, Congenital Lipoma by Abraham Jacobi, The Hygienic Management of the Summer Diarrhea of Infants by J. Lewis Smith. Clinical lectures are on Infant Feeding by John M. Keating, Rachitis by F. Forcheimer, and Intestinal Indigestion by Louis Starr. Clinical memoranda are contributed by L. Emmett Holt, William P. Northrup and Henry Dwight Chapin.

A characteristic feature of these communications of fifty years ago is their clinical nature and the accuracy of their detailed descriptions of signs and symptoms. Thus Plant, in his paper on convulsions in children: "The whole body is in violent, uncontrolled action. The facial muscles are twitching, giving to the features the most frightful expressions. The mouth is distorted; and often the lips and chin are covered with a bloody foam. The eye-balls are turned up under the lids, or to one side, or are rapidly jerked this way and that. The lingual muscles take part in the general mêlée and frequently the tongue is severely lacerated by the teeth. The head is drawn backward or to one side by a succession of spiteful jerks. Generally the face is livid from congestion; exceptionally it is pale. The arms and legs are in ceaseless convulsive movement. The forearms are rapidly bent and extended on the arms; there are alternate movements of incomplete pronation and supination and the limbs are twisted and drawn into various awkward and grotesque shapes. Usually, the legs are less roughly dealt with than the arms."

A touch of humor is added and advice with a reminiscent note is given to the young physician on first encountering a case of convulsions. "Here are good ladies longing to be of use; give them something to do. Ask one of them to provide a plentiful supply of hot water; and another to look up a bath or wash tub. If the child is in a small room, assign to another the task of carrying it to a larger one and loosening the clothing at the neck and waist."

This number, collected from the archives of a half century ago, is well worth perusal. Some of its contents might not stand the scrutiny of modern scientific exactitude but their descriptions of disease are classical and the sound common sense introduced might afford an example to more modern writers.

A NEW APPARATUS FOR INVESTIGATION OF THE NERVOUS SYSTEM

An electrical device has recently been designed by Dr. Richard U. Light of the Yale University School of Medicine and Professor E. L. Chaffee of the Department of Physics of Harvard University for experimental exploration of the functions of the nervous system. By an ingenious method of implanting small secondary coils in an animal at excitable centres and then by bringing the subject into a magnetic field created by a primary circuit, Jacksonian attacks from stimulation of the motor area in the monkey, a condition of somnolence after excitation of the hypothalamic region, contraction of the tongue from implantation of the electrodes on the hypoglossal nerve and a copious flow of highly acid gastric juice, and violent peristalsis, from stimulation of the vagus on the lower esophagus of a dog, have been repeatedly demonstrated. Some of the implanted coils, covered with collodion, have remained in place for as long as seven months without evidence of irritation of tissue or of cyst formation. By this method the restrictions of time, anesthesia and restraint of the animal are removed and a wide range of exploration of function is possible. The exciting stimulus may be activated over months without disturbing in any way the habits or activity of the animal. Thus a new and important principle of investigation has been invented, which should be particularly useful in the study of such autonomic functions as sleep, sugar and water metabolism, menstruation, blood pressure, digestive activity and temperature control. The possible results of research by this apparatus are of the greatest interest in the wide field of medical science. A preliminary report of this important work has been published in *Science,* March 30, 1934.

THIS WEEK'S ISSUE

Contains articles by the following named authors:

Truesdale, Philemon E. M.D. Harvard University Medical School 1898. F.A.C.S. Surgeon, Truesdale Clinic, Fall River, Massachusetts. His subject is "Hernia of the Diaphragm. Esophageal Type In Adults." Page 781. Address: 151 Rock Street, Fall River, Massachusetts.

Hiebert, J. Mark. M.D. Boston University School of Medicine 1932. Formerly, House Officer, Children's Medical Service, Massachusetts General Hospital. Address: 282 Grant Avenue, Nutley, New Jersey. Associated with him is

Garland, Joseph. A.B., M.D. Harvard University Medical School 1919. Physician to Children's Medical Service, Massachusetts General Hospital; Consulting Pediatrician, Massachusetts Eye and Ear Infirmary; Instructor in Pediatrics, Harvard Medical School; Consulting Pediatrician to New England Baptist Hospital and Addison Gilbert Hospital, Gloucester. Address: 264 Beacon Street, Boston, Massachusetts. Their subject is "Hereditary Ectodermal Dysplasia of the Anhidrotic Type, with Case Report." Page 784.

Vose, Samuel N. M.D. Boston University School of Medicine 1918. F.A.C.S. Assistant Professor of Genito-Urinary Surgery, Boston University School of Medicine. Surgeon, Department of Genito-Urinary Surgery, Massachusetts Memorial Hospitals. Consulting Urologist, Leonard Morse Hospital, Natick; Norwood Hospital and Martha's Vineyard Hospital. His subject is "Hydronephrosis Due to Subepithelial Fibrosis: Treatment by an Adaptation of Rammstedt's Technique." Page 786. Address: 15 Bay State Road, Boston, Massachusetts.

O'Connor, Cornelius T. A.B., M.D. Harvard University Medical School 1924. Visiting Gynecologist, St. Elizabeth's Hospital, Brighton. His subject is "Local Anesthesia in Obstetrics." Page 788. Address: 476 Commonwealth Avenue, Boston, Massachusetts.

Cotton, Frederic Jay. A.B., A.M., M.D. Harvard University Medical School 1894. F.A.C.S. Consulting Surgeon, Boston City Hospital, Faulkner Hospital, Newton Hospital, New England Hospital for Women and Children, Chelsea Memorial Hospital, and Cape Cod Hospital, Hyannis. Address: 520 Commonwealth Avenue, Boston, Massachusetts. Associated with him is

Morrison, Gordon Mackay. A.B., M.D. Tufts College Medical School 1926. F.A.C.S. Assistant Outpatient Surgeon, Boston City Hospital. Visiting Surgeon, Chelsea Memorial Hospital. Junior Visiting Surgeon, Newton Hospital. Consulting Surgeon at Huggins Memorial Hospital, Wolfeboro, New Hampshire, Framingham Union Hospital, and Leonard Morse Hospital, Natick. Address: 520 Commonwealth Avenue, Boston, Massachusetts. Their subject is "Rigid Flat Foot—Remodelling." Page 792.

Aitken, Alexander P. M.D. Tufts College Medical School 1928. Instructor in Surgery, Boston University School of Medicine. Assistant in Surgery, Boston City Hospital. Junior Surgeon, Chelsea Memorial Hospital. His subject is "A Separate Ossification Centre for the Internal Malleolus." Page 793. Address: 520 Commonwealth Avenue, Boston, Massachusetts.

Rushmore, Stephen. A.B., M.D. Johns Hopkins University School of Medicine 1902. F.A.C.S. Secretary, Massachusetts State Board of Registration in Medicine. Dr. Rushmore presents his "Address at the Hearing on House

Bill 118." Page 795. Address: 520 Commonwealth Avenue, Boston, Massachusetts.

DIXSON, IRA M. A.B., M.D. Harvard University Medical School 1928. His subject is "Salyrgan: Its Long-Continued Use in Cardiac Insufficiency with Latent Edema." Page 800. Address: Stockbridge, Massachusetts.

FITZ, REGINALD. A.B., M.D. Harvard University Medical School 1909. Associate Professor of Medicine, and Chairman of the Library Committee, Library of the Medical School and the School of Public Health, Harvard University. His subject is "A Note on the History of Lead Poisoning in Boston." Page 802. Address: 721 Huntington Avenue, Boston, Massachusetts.

HORRAX, GILBERT. A.B., M.D. Johns Hopkins University School of Medicine 1913. Head of Neurosurgical Department, The Lahey Clinic, Boston, Massachusetts. Neurosurgeon to the New England Baptist and New England Deaconess Hospitals, Boston. His subject is "Intracranial Lesions." Page 806. Address: 605 Commonwealth Avenue, Boston, Massachusetts.

The Massachusetts Medical Society

THE TREASURER'S REPORT

COVERING REFUND DISTRIBUTION

THE Treasurer of the Massachusetts Medical Society makes the following report regarding the refund to District Societies for 1934.

The Council voted to distribute the sum of $5000 to District Societies. The total number of payments of annual dues received by the Treasurer, for March 1st and to be counted for the refund was 3229. Therefore the refund to the District Societies for each paid Fellow is $1.5484.

The following table gives the number of payments in, and the refund to, each District:

District	Number Reported Paid	Check
Barnstable	35	$54.21
Berkshire	80	123.88
Bristol North	51	78.98
Bristol South	145	224.53
Essex North	136	210.59
Essex South	163	252.40
Franklin	31	48.02
Hampden	182	281.82
Hampshire	40	61.95
Middlesex East	82	126.98
Middlesex North	89	137.82
Middlesex South	571	884.15
Norfolk	563	871.76
Norfolk South	82	126.98
Plymouth	96	148.66
Suffolk	503	778.86
Worcester	323	500.14
Worcester North	57	88.27
	3229	$5000.00

In 1933, for comparison, the total number of payments for the refund was 3177.

CHARLES S. BUTLER, M.D., *Treasurer.*

April 2, 1934.

MASSACHUSETTS LEGISLATIVE NOTES

REPORT ON CHIROPRACTIC AND OTHER HEARINGS

On Tuesday, April 3, 1934, there were three hearings before the Legislative Committee on Public Health. The hearings had been set on rather short public notice so that they did not appear in the Bulletin of Committee Work for March 26, 1934, and were not noted in the issue of the *Journal* for March 29, 1934.

The first bill considered was Senate 162 which accompanied the petition of Joseph Conway for certain amendments to the law relative to registration and practice of chiropractors. Mr. Conway acknowledged that the Bill as drawn was unsuitable and that an impasse had been reached by the persons favoring and opposing the registration of chiropractors. He was confident that a reasonable solution could be reached and asked that a subcommittee of three members of the Legislative Committee on Public Health meet with three physicians, representing the State Department of Public Health, the State Board of Registration in Medicine and the Massachusetts Medical Society and with three chiropractors or representatives of chiropractic, to seek a solution in conference and to report their findings to the Legislative Committee.

There spoke against the bill, Dr. Thomas J. O'Brien for the Massachusetts Medical Society, Dr. Gaylord W. Anderson, Deputy Commissioner of the State Department of Public Health, Dr. Stephen Rushmore for the State Board of Registration in Medicine, Mr. Frank Kiernan, Executive Secretary, Massachusetts Tuberculosis League, and Miss Dieter for the Massachusetts State Nurses Association. Mr. Kiernan referred to several thousand persons who had come to his attention during ten years of work in the State of New York, at a time when they were hopelessly ill from tuberculosis and who, in the early and curable stages had been under the care of chiropractors. A number of other persons expressed their opposition by a rising vote.

The second bill was House Bill 118, introduced by the Board of Registration in Medicine, the most important provision of which would give to the Board discretionary power of approval of medical schools from which graduates are accepted for examination.

The Board was represented by the Secretary, Dr. Stephen Rushmore, whose remarks appear elsewhere in the *Journal**.

Dr. Anderson, Deputy Commissioner of the State Department of Public Health, also spoke for the Bill, on the grounds that increased protection of the health of the people of Massachusetts demanded raising the statutory qualifications for practice. He called attention also to the generally acknowledged inadequacy of the examinational test to determine actual fitness for practice.

On account of the length of the hearing it was interrupted by recess and a number of persons registered their approval of the Bill, leaving their names with the Clerk of the Committee.

Opposition to the Bill was led by Mr. C. Ruggles Smith, Registrar of Middlesex College of Medicine and Surgery, who emphasized the importance of having medical schools independent of the control of the "Medical Trust," described in the terms usually employed on such occasions, which, it was alleged, controls all the State Boards of Registration in Medicine in the United States, including the Massachusetts Board. Professor Joseph Cheskis, of Middlesex College of Medicine and Surgery, perfervidly described the difficulties of the poor boy in getting an education. The Secretary of the Board had pointed out that one of the not-approved schools which advertised as specializing in "poor boys", acknowledged that it could do "little financially" and admitted that "perhaps it was better that it could not help in this way".

Mr. William Blatt, Professor of Medical Jurisprudence at the College of Physicians and Surgeons, Boston, and Mr. George W. Boland, lecturer on the same subject in the same institution, also spoke against the Bill.

The third bill was House 755, introduced by Mr. Dever of Cambridge, on petition of C. Ruggles Smith for amendment to the law relative to registration of physicians and surgeons. Mr. Smith and Mr. Boland spoke for it. The first provision of the bill is to make unacceptable, as a qualification for admission to examination, attendance at schools not empowered to confer degrees, even though legally chartered. The dispute on this point, for no principle is involved, seems to concern two factions among osteopathic interests, only; for if schools once chartered are permitted to degrade medical education as much as they please, the mere lack of power by one medical school to confer degrees would not appreciably affect the health of the public.

The second provision asks for repeal of the section of the Massachusetts statute which empowers the Board of Registration in Medicine to accept the examination of the National Board of Medical Examiners in place of its own examination. It is interesting to note that some persons who opposed giving the Board of Registration in Medicine discretionary power of approval of medical schools, because they "know so little about medical education," being by statute not connected with a medical school, should be opposed to the Examiners of the National Board "because they are teachers in medical schools". So completely was the situation misrepresented that the view was expressed that it is not fitting that Massachusetts should accept the dictation of a body from outside the State. As the examinations of the National Board are accepted in over forty states, and are generally regarded as more searching and difficult than any State board examination, the hearing showed a somewhat remarkable recrudescence of narrow partisanship and parochialism.

*Page 795.

MISCELLANY

MATERNITY DEATHS

In a large American city an eminent board of medical men supervised a study of every maternal death during a period of three years. Competent physicians investigated every death as soon as possible after it occurred. Significant findings were made from the facts found, and published under the authority of the local Academy of Medicine.

Of these deaths, 65.8 were preventable "if the care of the women had been proper in all respects".

The report states: "Any group of deaths in which two-thirds of the total could have been prevented becomes immediately a most pressing problem. The Committee always asked this question: If this patient had had the advantage of the best possible attention and care, would this death have occurred? Where the answer to the question was in the negative, they classified that death as preventable.

"There is a responsibility to see that every woman has such care.

"It lies with the medical profession as a whole.

"It lies with the individual members of that profession.

"It lies with society as it is represented in the numerous organizations for the improvement of the health conditions of that part of the social body which is forced into a greater or less dependence on the public health facilities.

"It lies with the woman herself."

Do you think conditions in your own community are much better than this? They are not, unless the death rate reflects it. First, find out what the local mortality rate is—then compare it with the rate of 2.2 per thousand live births, which is the rate actually achieved among more than 5,000 mothers cared for during eight years by the Maternity Center Association. The records of these cases were studied and the foregoing figures certified by Dr. Louis I. Dublin, Statistician, Metropolitan Life Insurance Company.

MAY DAY—CHILD HEALTH DAY

On May 1 will be celebrated the tenth anniversary of National Child Health Day. In the years since its initiation by the American Child Health Association in 1924, the observance of the day has undergone significant changes. Each year it has

struck a deeper note. Each year new groups have realized that they had a contribution to make. Steadily from May Day to May Day, communities have come to understand that teamwork for child health is for the best interests of children.

Of all the values of May Day—Child Health Day, perhaps the greatest is the opportunity it presents to enlist the active interest of groups which might otherwise not give the subject of child health any particular thought, and to draw them into the general program.

The spirit of coöperation, be it local or state-wide, has been fostered by the activities which have had May Day—Child Health Day as their inspiration. Communities working together for a single project have acquired a spirit of effective coöperation, and have discovered its values as well as its difficulties. They have found that working together was time-saving, money-saving, and sometimes life-saving.

At this time, more than ever, with reduced appropriations and budgets, individuals and groups should come together to meet the desperate needs of the hour.

The Conference of State and Provincial Health Authorities of North America, the body which last year assumed the responsibility for the national conduct of Child Health Day, believes that adequate care for babies and for expectant and nursing mothers must be the foundation on which to build a nation of healthy children. They will therefore use this year the slogan, Mothers and Babies First. The health officers are fighting to maintain the public health measures which they believe most necessary to protect infant and maternal health. Popular support is needed as never before. In nearly every state the State Chairman for May Day is to be found in the State Board of Health or in the Bureau of Child Hygiene, where such exists. So that, where

COMPARISON OF DISEASE INCIDENCE IN CONNECTICUT WITH 1933 AND SEVEN YEAR AVERAGE

MONTH ENDING MARCH 31, 1934

Diseases	1934 Week ending March 10	1934 Week ending March 17	1934 Week ending March 24	1934 Week ending March 31	Average cases reported for week corresponding to March 31 for past seven years	1933 Week ending March 11	1933 Week ending March 18	1933 Week ending March 25	1933 Week ending April 1
Cerebrospinal Men.	1	1	—	—	1	2	1	1	—
Chicken Pox	173	115	91	72	82	167	135	134	117
Conjunctivitis Inf.	—	1	9	9	—	—	—	—	1
Diphtheria	2	6	8	6	17	5	4	6	10
Dysentery Amebic	1	1	—	—	—	—	—	—	—
Encephalitis Epid.	1	2	—	1	—	—	—	—	—
German Measles	1	4	1	4	44	9	3	2	6
Influenza	2	15	1	1	20	7	12	19	11
Measles	36	38	26	34	323	328	159	240	214
Mumps	279	100	134	96	108	105	82	88	119
Pneumonia (Broncho)	37	33	34	29	40	23	26	22	29
Pneumonia (Lobar)	39	36	34	41	57	27	35	44	44
Scarlet Fever	71	92	81	65	118	115	176	147	167
Septic Sore Throat	5	2	2	3	3	1	3	4	6
Smallpox	—	—	—	—	—	—	3	—	1
Tetanus	—	—	1	—	—	—	—	—	1
Trachoma	—	—	—	—	—	—	1	—	—
Trichinosis	1	1	—	—	—	—	—	8	1
Tuberculosis (Pul.)	25	25	20	22	29	24	35	16	32
Tuberculosis (O. F.)	2	2	—	2	4	3	1	2	3
Typhoid Fever	1	—	2	—	1	1	—	—	2
Undulant Fever	1	—	—	1	—	—	2	1	1
Whooping Cough	75	57	67	54	80	94	106	87	111
Gonorrhea	22	24	39	17	32	33	15	26	26
Syphilis	48	44	48	39	39	70	49	33	36

Remarks: No cases of Asiatic cholera, glanders, plague or yellow fever during the past seven years.

it seems desirable, the opportunity exists for promulgating a state-wide May Day program covering some particular aspect of child health.

More often, however, communities decide on their own local projects, which may cover babyhood, the preschool age, or the child at school, or all three. Whatever the project, National Child Health Day is becoming year by year more productive of practical results.

From the first year of its observance, May Day—Child Health Day has had for its symbol the daisy. There is something in the milk-white beauty of its petals which recalls the innocence of childhood. Those who know this flower will recognize also its vitality. Drought cannot kill it, storms do not harm it. We want this vitality for our children; we want so to build that, as Calvin Coolidge once said, "America may produce men and women worthy of our standards of citizenship." This can only be done by joint action. No home, no school, no public or private agency can take on the whole task. Teamwork and understanding of all are needed to reach the goal of May Day—children whole and healthy in body, mind and spirit.

MORTALITY RATES

Telegraphic returns from 86 cities, with a total population of thirty-seven millions for the week ending March 24, indicate a mortality rate of 12.5 against a rate of 11.7 for the corresponding week of last year. The highest rate (22.4) appears for Hartford, Conn., and the lowest (4.7) for Yonkers, N. Y. The highest infant mortality rate (13.0) appears for Peoria, Ill., and the lowest for Evansville, Ind., Miami, Fla., Salt Lake City, Utah, Schenectady, N. Y., Somerville, Mass., South Bend, Ind., and Tacoma, Wash., which reported no infant mortality.

The annual rate for 86 cities is 12.7 for the twelve weeks of 1934, as against a rate of 12.3 for the corresponding period of the previous year.—*Bureau of the Census.*

The mortality rate for February and March 1934 is now above that of the corresponding months of 1933.

CORRESPONDENCE

A VERDICT AGAINST A PHYSICIAN IN A CASE OF SYMPATHETIC OPHTHALMIA WITH COMPLETE LOSS OF VISION

Editor, The *New England Journal of Medicine,*

The above-mentioned case deserves the attention of the medical profession and the public for reasons which I will presently discuss.

The history of the case is as follows:

On July 13, 1927, a boy of 15 was struck in the right eye by a piece of steel (2 mm. by 1 mm.) which was hammered off an automobile wheel rim. The boy went home and applied cold compresses. On the following afternoon he called at the office of an oculist who, according to the latter's statement, recommended that he go to a hospital. This statement was denied by the plaintiff. On July 16 the boy called at my office accompanied by a gentleman. I saw a small prolapse of the iris in the limbus, a traumatic cataract, and an irritation of the eye with photophobia and lacrymation.

Not knowing whether the piece of steel had penetrated into the eye, whether it was there or in the orbit, I advised that the boy be taken to the Massachusetts Eye and Ear Infirmary immediately emphasizing the danger which might threaten the other eye in case they did not obey my directions. The boy could count fingers at a near distance with the injured eye. The left eye was in perfect condition.

There was no question in my mind that, if there was a piece of steel in the eye, and attempts to remove it were unsuccessful, the right eye should be removed in order to prevent a sympathetic ophthalmia. As the latter occurs usually not before the third week, there was plenty of time to take care of the case and prevent total blindness. The injured eye would not be of much use anyway taking into consideration the damage already done.

On the same day (sixteenth) the patient entered the Eye Infirmary where an x-ray was taken showing the piece of steel near the optic nerve. That same day and also on the following days several unsuccessful attempts to remove the piece of steel with a giant magnet were made, and on July 20, a week after the accident, an attempt to remove the piece of steel through an incision and introduction into the eye of a small magnet ended in failure. On July 23 the relatives were advised to give permission for removal of the right eye, and on the twenty-sixth the boy was discharged, such permission being denied.

At that time (July 26) neither symptoms of sympathetic inflammation nor even those of sympathetic irritation of the left eye were recorded. During the first week of August the boy was seen by another oculist who diagnosed sympathetic ophthalmia and removed the injured eye, but the case resulted in complete blindness.

Is the first oculist who saw the patient on July 14 to blame for the total blindness of the patient?

The oculist of the Eye Infirmary, who was in charge of the case, and I answered in the negative, while the oculist called by the plaintiff answered in a manner which could convey the impression that the delay of two days might have been essential.

No one can deny that the physician who saw the patient on July 14 would have acted more wisely, if he had insisted on sending the boy to a hospital despite the objections of the patient or his relative. Few of us, if any, do not make mistakes or omissions. The point in question is whether the patient's blindness is the *accused physician's, nobody's or somebody else's fault.*

The lawyer for the plaintiff tried to show that

during the first two days an infection and sepsis occurred. What does one mean by the words "infection and sepsis" in the eye? As I see things, it means suppuration. But there was no pus in this case. And if pus had resulted because of the delay, it would have been very beneficial in this case, as panophthalmitis usually does not cause sympathetic ophthalmia. The piece of steel, which penetrated into the posterior sclera near the optic nerve, must have been hot and sterile. What took place was a peculiar plastic iridocyclitis with a consequent sympathetic ophthalmia, the cause of which is not known. Meller described lately a case in which notwithstanding the fact that a splinter of steel was removed immediately, a sympathetic ophthalmia developed in the other eye in six weeks after the injury. Crisp in his editorial in the March, 1933 issue of the *American Journal of Ophthalmology* said, "The determination of its (sympathetic ophthalmia) etiology has long been counted among the seeming impossibilities of medical science."

This type of inflammation may result from injury other than a penetrating wound. I had a case in which a small boy after a fall developed a detachment of the retina in one eye with no visible injury to the latter. It resulted in an iridocyclitis with a consecutive sympathetic irritation of the other eye.

Therefore, as yet it is proper to speak of a *peculiar* plastic inflammation which tends to spread to the other eye, and the cause of which is unknown. The words "infection and sepsis" beclouded the issue and conveyed a wrong impression to the jury.

Even the timely removal of an injured eye (before sympathetic ophthalmia has started) in rare cases does not prevent sympathetic ophthalmia since the latter has been recorded as late as 53 days after the removal of the injured eye. An oculist cannot help knowing that blindness in this case might have been due to the delay in the removal of the injured eye rather than to the delay in the removal of the piece of steel.

The accused physician was made a scapegoat. The jury rendered a verdict against the physician in the sum of $22,000.

On appeal of the physician, the judge set aside the verdict of the jury and ordered a new trial. The physician decided to settle the case out of court, which he did, and closed the case.

This trial shows the weak points in court proceedings against physicians accused of malpractice.

In order to avoid decisions based on a wrong evaluation of facts it would be advisable, in my opinion, to amend the court practice in such a way:

1. The jury in such cases should include at least one physician; and

2. The decision should be taken by a majority vote so that the juryman-physician could not block the decision.

Besides, as suits for malpractice in some cases may have their origin in a careless remark of another physician who happened to come in touch with the case, the physicians connected with the case should not be allowed to testify. The court should appoint experts, whose authority is beyond a reasonable doubt, to state and evaluate the facts.

Yours truly,

O. R. Lourie, M.D.

485 Commonwealth Avenue,
Boston, Mass.

APPENDICITIS AND MEASLES

March 31, 1934.

Editor, *New England Journal of Medicine*.

The prevalence of measles in Eastern Massachusetts, now reaching epidemic proportions, suggests the desirability of calling attention to acute appendicitis as a complication of, or coexisting with, measles.

Available texts of pathology and of pediatrics discuss the respiratory and aural complications, but on hurried examination were not found to include a discussion of this complication.

Accurate data concerning the incidence were not found. However, Thenebe, Hirshberg and Cinci in the *Archives of Pediatrics* for January, 1933 report six cases in a group of 371 cases of measles admitted to the Hartford Isolation Hospital. Five cases were operated on subsequent to admission and one was admitted after operation in another hospital. All were proved cases. There were no deaths. The incidence of 1.6 per cent is high because uncomplicated cases are not so frequently hospitalized. These authors found little literature on the subject. The first report they found was by Williams of Boston, in 1912. They quote E. C. Smith of the Haynes Memorial Hospital as saying the complication is not rare.

The following five case summaries lend weight to this belief and the fact that two have been seen within the last month and in one community indicates that consideration is pertinent:

D. S. (Children's Hospital No. 146439) complained of headache on February 9, 1931, and had cough, conjunctivitis and fever of 102.5°. These persisted and a characteristic measles rash appeared on the third day. He then complained of pain to the right of the umbilicus. The pain persisted and was of a dull character. There was irregular fever reaching 103°. He was admitted to the private ward on February 20, acutely ill with fever of 103°, and a tender firm mass in the right flank. On February 22, a large retrocecal appendix abscess was drained. The appendix was not removed. The colon bacillus was recovered from a culture. Convalescence was uneventful and he was discharged on March 12. He returned on May 15 and appendicectomy was performed the following day. The appendix was scarred, attenuated, and adherent lateral to the cecum. He was discharged in good condition May 25.

E. W., No. 3147869 on April 3, 1931, had a chill and

fever of 102°. On April 5 a rash said to be characteristic of measles appeared. At this time the patient complained of pain in the right lower quadrant, aggravated by lying on the right side. The pain persisted. On April 7 she vomited twice. The appetite remained good until April 11 when nausea and vomiting occurred. On April 15 the pain became more severe. She was admitted to the surgical service on April 16, acutely ill and with a well-defined suprapubic mass about four inches in diameter. The mass was also palpable on rectal examination and was very tender. An appendix abscess was drained soon after admission. A part of the appendix and a concretion were found free in the abscess. The colon bacillus was recovered on culture. Convalescence was satisfactory and she was discharged on May 9. She returned on July 31, 1933, and an incisional hernia was repaired. The rest of the appendix was removed. She was discharged August 15.

D. B., No. 170224, was admitted to the Isolation Building on April 21, 1933. For five weeks there had been anorexia, occasional nausea, and mild attacks of pain in the right lower quadrant. Four days before admission there was photophobia and fever. The day before admission a typical rash appeared. Sharp pain in the right lower quadrant followed by vomiting occurred. The temperature was 103°. On admission, a measles rash was present and there were tenderness and muscle spasm. Immediate operation was done by Dr. W. E. Ladd and an acutely inflamed appendix, wrapped in omentum which covered an appendiceal abscess, was removed. There was some free fluid in the peritoneal cavity and one drain was introduced. Convalescence was gratifying and she was discharged home in the care of a local physician on April 30.

J. McM., Framingham Union Hospital No. 21942, became ill February 12, 1934. A typical measles rash was noted February 16. Beginning February 20 there was generalized abdominal discomfort which persisted. He vomited several times on February 20 and there was diarrhea for the four succeeding days. Between February 24 and March 2 he appeared to improve. Fever and tachycardia which had been present were lessened. On March 2 the temperature rose and he complained of right-sided abdominal pain. On March 4 the temperature was 103°, pulse rate 120 and the child seemed quite ill. There was tenderness and muscle spasm in the right flank, and right lateral aspect of the abdomen. The tenderness was most acute at McBurney's point about which an indefinite mass was palpable. On March 5 operation was performed and an appendix abscess drained. Convalescence was very smooth and he was discharged March 22.

L. M., Framingham Union Hospital (Number unassigned), was well on March 18. On March 19 there was vomiting, diarrhea with mucus, and a temperature rising rapidly to 105°. The diarrhea persisted. On March 21 the rash was noted. On March 24 he began to complain of abdominal pain which persisted and was paroxysmal. It was confined to the lower abdomen. At times he became distended and a rectal tube gave relief. On March 26 the rash disappeared but abdominal pain, diarrhea, and fever as high as 101° persisted. There was no vomiting. This morning (March 31) the temperature was 99.2° but had been 103° during the night. There was a well-defined midline mass about six inches in diameter extending from the symphysis pubis to the umbilicus. Maximum tenderness and resistance was noted about two inches below and to the left of the umbilicus. The mass was easily felt by rectum. Operation was performed today through a left rectus incision and a very large abscess drained. The appendix was not seen or felt, but the abscess had the characteristics of one of appendiceal origin.

Personal observation of five cases of appendicitis and measles, two occurring within a month and in a single community seems more than a coincidence. In addition I have been told of two similar instances, one now in the Children's Hospital, and one additional case in Framingham.

This experience indicates that those gastro-intestinal symptoms associated with measles and variously termed enteritis, ileo-colitis, and colitis, be given critical study with the possibility of acute appendicitis in mind.

Yours very truly,

HENRY W. HUDSON, JR., M.D.

66 Commonwealth Avenue, Boston, Mass.

REFERENCES

1 Thenebe, C. L., Hirshberg, M., and Cenci, V.: Acute appendicitis as a complication of measles. Arch. Pediat. 50:1 (Jan.) 1933.

2 Williams, Harold: A case of measles complicated by appendicitis. Boston M. & S. J. 144:642 (June 27) 1901.

MEASLES AND TUBERCULOSIS

April 2, 1934.

Editor, The *New England Journal of Medicine*,

Aprcpos of the recent and widespread epidemic of measles in this state, it occurs to me that it is well to direct attention again to the danger of pulmonary tuberculosis as a sequela of measles.

There has been valuable work done in the survey of school children for the early detection of pulmonary tuberculosis, and I believe the general practitioner can draw a lesson from that survey which, together with other studies, shows that the juvenile type of pulmonary tuberculosis can best be detected in its earliest stages by the skin test and a roentgenologic study of satisfactory plates of the chest.

Since a positive skin test does not indicate the location of the infection, it seems to me that only the x-ray plates are necessary primarily for the diagnosis, which if positive may be corroborated by other clinical measures and allow of the earliest medical supervision; if the child is in the borderline class he can be better directed under the phy-

sician's care than allowed to run wild until such time as he may be definitely diagnosed as free from infection or the contrary; and if he is happily free from infection that knowledge is of inestimable value and comfort to all concerned.

There may be a difference of opinion as to the priority of procedure but I believe our duty is not done until we have covered this aspect of the disease.

Yours very truly,

WALTER A. LANE, M.D.

173 School Street, Milton, Mass.

AN EXPENSIVE DISEASE

April 3, 1934.

Editor, The *New England Journal of Medicine*,

A letter recently published in the *Journal* from Dr. J. Harper Blaisdell relative to the costs for tuberculous patients in the town of Winchester, Mass., prompted me to investigate the costs for similar service in my home town of Mansfield, Mass.

I am given the following figures:

The assessment received by the Selectmen of Mansfield from the County Commissioners of Bristol County for the support of the T. B. Hospital at Attleboro, Mass., for the year of 1933 was $4,712.02.

The records show that during the year the town had one patient in the hospital for thirty-five days for which $46.80 was paid and another patient for seventy-two days for which a check for $94.90 was paid.

The total bill, therefore, for the town for 1933 was $4,853.72 for a total hospitalization of one hundred and seven days, which is at the rate of $317.52 per week or $45.36 per day or $1.89 for each hour of every twenty-four hours that the patients of the town were under treatment.

Naturally, it makes me feel that the town of Winchester got out of the situation rather easily as compared with Mansfield.

But seriously, does it not make one view the increased tendency toward State Medicine with a good deal of apprehension?

Yours very truly,

FRANK H. DUNBAR, M.D.

86 Rumford Avenue,
Mansfield, Mass.

RECENT DEATHS

COOK—SNOW PARKER FREEMAN COOK, M.D., of 111 Main Street, Gloucester, died at the Addison Gilbert Hospital, April 6, 1934. Dr. Cook was born in Liverpool, N. S., in 1861 and his premedical education was acquired at the Acadia College, Wolfville, N. S. He graduated in medicine from the University of Pennsylvania School of Medicine in 1886 and practiced in Gloucester for about forty years.

Dr. Cook joined the Massachusetts Medical Society in 1893. His practice was devoted to diseases of the nose, ear and throat. He was a member of the Tyrian Lodge of Masons and a director of the Cape Ann Savings Bank.

TOWNSEND—CHARLES WENDELL TOWNSEND, M.D., of Boston and Ipswich, died in Boston on April 3, 1934, at the age of seventy-five years. Born in Boston, the son of Thomas Davis Townsend and Frances Barnard Smith Townsend, he prepared for college at Noble's School and was graduated from Harvard College in 1881 and from Harvard Medical School in 1885. He had in the past served on the staffs of the Massachusetts General, the Boston Lying-In and the Children's Hospitals, and the Seashore Home for Sick Children at Winthrop.

Dr. Townsend was best known, however, as an ornithologist, having written many books and papers on the birds of various sections of the country. Surviving him are his son, Charles Townsend, of Boston; three daughters, Miss Gertrude Townsend of Boston, Mrs. Hale Sutherland of Bethlehem, Pennsylvania, and Mrs. Wendell Taber of Boston; a brother, William S. Townsend, and three grandchildren.

KIRK—LUCY A. KIRK, M.D., of 637 Dudley Street, Dorchester, died at her home on April 5, 1934. She was born in Dorchester, Massachusetts, in 1859, the daughter of Joseph and Eleanor Hall (Stimpson) Kirk. She was graduated from the Training School for Nurses at the Hartford Connecticut, Hospital in 1883 and received her M.D. degree from the Boston University Medical School in 1893. She served on the staff of the Boston Homoeopathic Dispensary from 1894 to 1902 and was a member of the Massachusetts Homoeopathic Medical Society, the Massachusetts Surgical and Gynecological Society and the American Institute of Homoeopathy. Dr. Kirk is survived by a sister, Miss Eleanor Hubbard Kirk.

O'TOOLE—THOMAS HENRY O'TOOLE, M.D., died at his home in Norwood on April 4, 1934, at the age of sixty-two. Born in Clinton, he moved to Philadelphia where he received his early education, later being graduated from Johns Hopkins University, and Jefferson Medical College of Philadelphia in 1897.

Dr. O'Toole settled in Norwood thirty-five years ago for the practice of medicine.

He joined the Massachusetts Medical Society in 1922, and was a Fellow of the American Medical Association. He was a member of the Norwood Lodge of Elks, the Knights of Columbus and the Foresters.

He is survived by his widow; a daughter, Mrs. Marie Heffernan; and a son, Dr. Thomas H. O'Toole of Norwood.

OBITUARY

WILLIAM HOWE MERRILL, M.D.

William Howe Merrill, M.D., of Lawrence, Mass., was born in Newport, Me., April 3, 1864, the son of Phineas and Elizabeth (George) Merrill. He at-

tended the Central Institute of Pittsfield, Me., for his preliminary education and later was graduated from the Medical School of Maine (Bowdoin) in 1888. He married Miss Abbie Tarr of Etna, Me. His first practice was in Burnham, Me., and later in Plymouth, Me. In 1896 he came to Lawrence, Mass., and did special work on eye, ear and throat, until his death on February 18, 1934, from coronary sclerosis, following an illness of two days.

In 1896, fellowship in the Massachusetts Medical Society was taken and he served as Councilor, Censor and President of the Essex North District Medical Society. Following the passage of the original Workmen's Compensation Act in this state, in 1911, which was passed without the advice or consent of the physicians of Massachusetts, the many inequalities of its provisions, as related to the medical profession, were early recognized. Through the earnest efforts of Dr. Merrill and other members of the Essex North District Society and other District Societies, a campaign was inaugurated which culminated in giving to the profession, after spirited activity, some improvements in the administration of the act, the most important being the adoption of the principle recognizing the right of the injured employee to choose his own physician.

Dr. Merrill was elected to the Medical Staff of the Lawrence General Hospital in 1900, and served as senior ophthalmic and aural surgeon until his recent resignation and election to the consulting staff.

Dr. Merrill accepted the office of trustee of the Lawrence Industrial School; was a member of the local Chamber of Commerce; a director of the Lawrence Tuberculosis League; a member of the Sanitary Milk Commission, and consulting physician to the Danvers State Hospital.

Dr. Merrill held fellowship in the American Medical Association, and was an active member of the Lawrence Medical Club for many years, and a Fellow of the American College of Surgeons. He was a Mason and received the Knights Templars degree.

Among the more advanced special societies which enrolled the doctor's name were the American Academy of Ophthalmology, and Oto-Laryngology, New England Ophthalmological Society, and the New England Otological Society.

His survivors are his widow and two sons, one of whom, Urban Howe Merrill, M.D., was associated with his father, and will carry on his special work in the quarters which have so long known the senior Dr. Merrill. The second son is Ivan C. Merrill of Maine.

Dr. Merrill accepted a commission in the Medical Department of the Army in the World War and was called into service January 1, 1918, at the age of 53, and served during the war in New Mexico and at Camp Devens, and was discharged as Captain following the armistice.

Our deceased friend was an example of a real physician. His interest in his profession was marked by constant attendance and participation in all meetings to which he held allegiance. His strong support of all activities of value to physicians and patients was practical and valuable. In his professional work, the humble station in life of any patient was no bar to his receiving proper treatment. Dr. Merrill possessed a good mind, was a quick thinker, was dignified and dependable. His great kindness to the younger men of the profession was acknowledged by all. His character and nature were such that the better one knew him, the more he was respected. It can be properly said of Dr. Merrill, that he fulfilled every duty to his family, his profession and his fellowmen.

We the members of the Lawrence Medical Club do hereby express our feelings of great sorrow at the loss of our friend, companion and fellow physician, Dr. William H. Merrill.

GEORGE B. SARGENT, M.D.,
VICTOR A. REED, M.D.,
J. FORREST BURNHAM, M.D., *Chairman.*

March 26, 1934.

NOTICE

LAWRENCE CANCER CLINIC

Lawrence, Mass.,
March 31, 1934.

To the Physicians of the North Half of Essex County:

Dear Doctor:

The regular Lawrence Cancer Clinic, to be held at Lawrence General Hospital, 1 Garden Street, Lawrence, upon Tuesday, April 17, at 10:00 A.M., will be a Demonstration Clinic with Channing C. Simmons, M.D., of Boston, Associate in Surgery at Harvard University Medical School, acting Surgeon-in-Chief to Collis P. Huntington Memorial Hospital, and member of the Cancer Commission of Harvard University, Boston, present as consultant. You are invited to accompany any of your patients whom you desire shall have this service, or to send them with a note, and a report will be returned to you. This service is gratis. Your attendance at the Clinic is always welcome.

This Clinic is endorsed by the Committee on Postgraduate Instruction of the Massachusetts Medical Society.

Committee:

ROY V. BAKETEL, M.D.,
CHAS. J. BURGESS, M.D.,
FRED'K D. MCALLISTER, M.D.,
JOHN J. MCARDLE, M.D.,
HARRY H. NEVERS, M.D.,
THOS. V. UNIAC, M.D.,
J. FORREST BURNHAM, M.D., *Chairman.*

REPORTS AND NOTICES OF MEETINGS

THE NORFOLK DISTRICT MEDICAL SOCIETY

A meeting of the Norfolk District Medical Society was held on Tuesday evening, January 30, 1934, at 8:15 P.M. in Roxbury Temple with Dr. Alexander S. Begg presiding. The guest speakers were Dr. William Dameshek of the Beth Israel Hospital, Boston, and Dr. Maurice B. Strauss of the Boston City Hospital.

Dr. Dameshek's topic was "Certain Disorders of the White Blood Cells" and Dr. Strauss discussed the "Etiology of the Anemias."

In speaking of the origin of the blood cells, Dr. Dameshek said that the corpuscular elements in the peripheral blood stream have their origin from three sources. The bone marrow is the chief and most important of these. From it arise all the erythrocytes and platelets, and 70 per cent of the leukocytes. The lymphocytes are produced by the lymph nodes throughout the body, and the reticulo-endothelial system, found in the spleen, liver, lymph nodes and bone marrow, furnishes the monocytes.

The bone marrow white blood cells pass through many stages from the primitive to the mature leukocytes, viz., myeloblast, premyelocyte, myelocyte, young metamyelocyte, band form of metamyelocyte and the polymorphonuclear leukocyte.

The Schilling Hemogram is concerned with the determination of the different forms of polymorphonuclear cells in the peripheral blood stream beginning with the young metamyelocyte and continuing through the band forms and mature "poly". The bone marrow reacts to infection in such a way as to put out as many mature forms as possible. Then band forms appear, followed by still younger forms and, if the infection is very severe, myelocytes get into the peripheral blood stream. In a differential cell count the polys may be subdivided in the Schilling Hemogram and thus the prognostic severity of the infection is determined. Shifts give much more information than the ordinary differential as to the progress of the process. In shifts to the left we see young forms; in those to the right older forms are in evidence. Most infections, especially with pyogenic organisms, act in this way.

Agranulocytosis is a cyclic fall in the white blood cell count due to an intrinsic disorder of the white blood cell forming organs and which may be related in some cases to the menstrual cycle. After the leukocyte count has fallen very low, areas of necrosis appear in the throat and buccal mucous membranes because of lack of resistance. Nucleic acid derivatives have been found to stimulate the bone marrow and are used to treat the disease. Pentnucleotide in 10 cc. ampoules is given intramuscularly twice daily. The white count will begin to rise in three to five days and goes up in the course of a week.

The speaker referred to the late reaction of lymphocytes to infection and suggested that the term infectious lymphocytosis, or better still, glandular fever, be used for the disease now so commonly called infectious mononucleosis.

Monocytosis is seen in subacute and chronic infections such as tuberculosis and lues. In tuberculosis the monocyte-lymphocyte ratio becomes elevated and is of value chiefly in children who are anergic. In adult tuberculosis, however, the Schilling Hemogram has greater prognostic significance.

The proliferative disorders of the white blood cells are termed leukemia or preferably leukosis and may be of two types: leukemic, in which the white count is high, and aleukemic in which the count is normal or below. Leukosis may be myelogenous, lymphatic or monocytic. Under the term myelosis is included acute leukemia, in which the cells are very immature, and chronic leukemia, in which the cells are more mature and an enlarged spleen is a prominent feature.

Most cases of leukosis seen are of the aleukemic type and have been variously misdiagnosed as:

1) Obscure anemia or pernicious anemia because of the accompanying anemia which is frequently of the macrocytic type. It does not respond to liver.
2) Agranulocytosis, because of the leukopenia which is frequently down to 1000-2000. It does not react to pentnucleotide, however.
3) Purpura hemorrhagica, due to the presence of diminished platelets resulting from the destruction of the platelet-forming mechanism, and the tendency of the patients to bleed.
4) Aplastic anemia, in view of the combination of the anemia, leukopenia, and diminished platelets.

Among the localized disorders may be mentioned the rapidly growing myelosarcoma, lymphosarcoma, and reticulosarcoma.

Referring to the diagnosis in cases presenting as their chief complaint or finding a group of enlarged lymph glands in the neck, the speaker emphasized the importance of a good history with particular attention to such features as itching, sweating, loss of weight, and pallor. This should be followed by a careful physical examination, especial care being devoted to all lymph glands, spleen, liver, supracardiac dullness and malignant disease of the sinuses and postpharyngeal area. Chief among the laboratory procedures to be done in such cases are urine for Bence-Jones protein, blood smear, chest x-ray, B.M.R., which is frequently elevated in Hodgkin's disease and lymphatic leukemia, and the biopsy which is the most important of all. An occasional case of Hodgkin's disease can be treated successfully by complete surgical removal of cervical lymph glands, provided, of course, there is no disease elsewhere.

Dr. Strauss said that the causation of anemia is related intimately to the blood supply and the demand for it. Among the factors which bring about

an increased demand are (a) blood loss due to hemorrhage or fetal requirement; (b) infections; (c) chemical agents; (d) idiopathic elements such as are seen in hemolytic jaundice, erythroblastemia, and sicklemia. The demand may be normal but the marrow hypoactive as in: (a) specific malnutrition with deficiency of liver extract, iron, or vitamin C; (b) toxic inhibition by infections and azotemia as well as chemical agents.

In his consideration of the anemia of pregnancy the speaker stated that it was rare to find pregnant women with less than 45 per cent hemoglobin and less than 2.5 million erythrocytes. In a long series of cases he found less than 74 per cent hemoglobin in 82 per cent of the ward patients, while 68 per cent of the private patients exhibited a like deficiency.

The anemia of pregnancy is a hypochromic anemia with low color index due to a deficiency of iron resulting from low intake, failure to utilize, or loss of iron by hemorrhage or to the fetus. The gastric acidity very frequently becomes reduced to zero in 50 per cent of the cases and all have some diminution of this factor.

The hemoglobin is not made up for months or years after the pregnancy unless active therapy is instituted. The lower the percentage of hemoglobin, the more liable the patient is to develop complications bcause of poor health due to the anemia.

Diet is important, for the speaker found that in those patients with normal acidity and a good diet, only 5 per cent showed an anemia; those with low acid and a poor diet were anemic in 12 per cent of the cases; while with no acid and a good diet 18 per cent showed definite evidence of hemoglobin lack.

The infants of women with lowered hemoglobin have as much of this material at birth as those of normal women, but such children do not store enough iron for the first year of life. Those children whose mothers are treated before the birth of the infants are as well off as the children of normal women.

Abnormal leukocyte counts are often seen in infants of mothers with low hemoglobin. During pregnancy there is an added requirement of blood building material which the mother must provide for the fetus. Consequently, her diet should be adequate in protein and iron-containing foods.

Treatment of the disease may be carried out through the use of 90 grains of iron and ammonium citrate daily. In those women with anacidity, cure may be brought about by the administration of five ounces of normal gastric juice with beef steak daily in addition to the iron. If pernicious anemia accompanies the hypochromic anemia, 10 cc. of liver extract should be given intramuscularly twice weekly in conjunction with the iron. The infants of anemic mothers should have one-sixth of the dose of iron taken by the mother.

In closing Dr. Strauss placed particular emphasis on the fact that the anemia of pregnancy may be prevented by the daily administration of 30 grains of iron and ammonium citrate during the entire course of the pregnancy.

FAULKNER HOSPITAL CLINICAL MEETINGS

On Thursday afternoon, April 5, 1934, at 5:00 P.M., the regular monthly meeting of the Staff of the Faulkner Hospital was held at the hospital.

Two of the cases which had come to autopsy during the month were discussed.

One was a case of pulmonary tuberculosis, which was complicated by difficulty in swallowing. This was pronounced, but still food was able to enter the stomach. X-ray studies showed a very definite obstruction throughout the lower half of the esophagus. The roentgenologist felt that this obstruction was more from pressure outside and ulceration in the wall of the esophagus than from neoplasm. It was felt by others that a neoplasm of the esophagus was more likely as it was quite unusual for a tubercular process in the mediastinum to obstruct the esophagus. The evidence of activity of the pulmonary tuberculosis increased and the patient died. At autopsy there was an extensive tubercular process in the lungs which was spreading and presumably caused death. Surrounding the esophagus there was what amounted to a cold abscess which had invaded the wall of the esophagus. There was no evidence of neoplasm.

The other case was one in which there were threatening abdominal symptoms which progressed rapidly in the course of two days with the development of a tender mass in the right upper quadrant and a leucocytosis. It was felt that the only chance for the patient was an exploration although the outlook appeared dubious. At exploration evidence of bleeding into the mesentery of the upper intestinal tract and throughout the tissues surrounding the pancreas and duodenum was evident. The patient died shortly after the operation and a leaking aneurysm of the abdominal aorta was found.

As Dr. Young was forced to be absent from town, the discussion about gallbladder problems was not given, but in place of that Dr. Edward D. Churchill gave a most interesting talk on "Recent Advances in Thoracic Surgery." He discussed the two conditions in which surgery of the lung has made distinct advances, namely, chronic bronchiectasis and cancer of the lung. He called attention to the fact that there are two types of bronchiectasis; one in which there is diffuse bronchiectasis scattered generally throughout both lungs. In these cases surgery is of no value. The other type consists in a localization of the bronchiectasis in one lobe. In these cases it is possible to remove the infected lobe. These cases in which the bronchiectasis is localized in one lobe usually present one of two sets of symptoms. In one case there is a profuse foul sputum without much tendency to bleed; in the other type there is not so much sputum but a tendency for repeated

hemorrhages which may often be serious. In addition to the discomfort which these people are subjected to from the bronchiectasis, there is always the danger of the spreading of the infection to other parts of the lung. He called attention to the value of lipiodol injections as a diagnostic procedure in regard to the operability of the case and emphasized the danger of using lipiodol as a diagnostic procedure in all cases. He reports that lipiodol dropped into the trachea just below the vocal cords is as satisfactory as lipiodol introduced through the bronchoscope. He called attention to the importance of a lateral x-ray of the chest in localizing the lesion. In certain instances postural drainage is helpful in these cases but never cures them. Postural drainage should be explained in detail to the patient. In his experience medicines, vaccines and pneumothorax have never cured the condition. The results of surgery in these cases in which the bronchiectasis has been limited to one lobe have been very gratifying. It is usually not a safe procedure in cases above 40 to 45 years of age. The social aspects of the patient are of importance, because if the patient has no dependents radical surgery is more justifiable than if there are dependents, for although the condition is eventually a fatal disease the patient may live for many years.

He then described the technique of operation calling attention to the fact that first a phrenicectomy is done; then an operation to remove the adhesions around the involved lobe and scarring of the rest of the pleura on that side, and finally the third stage of the operation in which the lobe is removed. Dr. Churchill has never seen a phrenicectomy produce a cure; he has seen the second stage of the operation cause distinct improvement, but in practically all cases the third stage is indicated.

In regard to cancer of the lung he reported that there are definite cases on record in which a whole lung has been excised with success and therefore we can no longer say that cancer of the lung is a fatal disease but must make a careful study of each case of cancer of the lung from the point of view of whether it is operable.

The next meeting will be held at the Faulkner Hospital on Thursday afternoon, May 3, 1934, at 5:00 P.M. In addition to the usual clinical pathological conference on the cases which have come to autopsy during the month, Dr. William W. Howell will give a short discourse on "The Infant's and Child's Resistance." All physicians who are interested are cordially invited.

HARVARD MEDICAL SOCIETY

Postponement of Meeting

The meeting of the Harvard Medical Society, scheduled for April 24, to be addressed by Dr. James C. White, has been postponed to May 8. Notice with title will appear later.

John Homans, M.D., *Secretary.*

NORFOLK DISTRICT MEDICAL SOCIETY

A regular meeting of the Society will be held in the Hotel Kenmore, Wednesday evening, April 18, 1934 (note change of date), at 8:15 P.M. Telephone Kenmore 2770.

Business:

Reports from Committees.

Incidental business.

Communications:

"The Practice of Public Health by the Private Practitioner." Dr. Charles F. Wilinsky.

Collation.

Frank S. Cruickshank, M.D., *Secretary.*

MASSACHUSETTS MEMORIAL HOSPITALS

The regular monthly meeting of the Surgical Section will be held in the Trustees Room of the Hospital on Friday, April 13, 1934, at 12 o'clock noon.

Dr. Henry M. Pollock, Superintendent of the Hospital, will address the members on "Getting Together."

Milo C. Green, M.D., *Secretary.*

BOSTON MEDICAL HISTORY CLUB

Annual Meeting

Sprague Hall, 8 The Fenway
Monday, April 16, at 8:15 P.M.

"Ulrich von Hutten and Neurosyphilis." Merrill Moore, M.D.

"The Perilous Adventure of Dr. Ball." Ralph C. Larrabee, M.D.

Illustrated by Stereopticon.

Light refreshments after the meeting.

James F. Ballard, *Secretary.*

Physicians' Art Exhibit at the Boston Medical Library, April 23 to May 5. Admission free.

NEW ENGLAND OPHTHALMOLOGICAL SOCIETY

The next meeting of the New England Ophthalmological Society will be held at the Massachusetts Eye and Ear Infirmary, 243 Charles Street, Boston, on Tuesday, April 17, 1934.

Program

9:00 A.M. Clinic and Operating room.
11.30 A.M. Neuro-Ophthalmological Conference.
2:00 P.M. Clinico-Pathological Conference.
3:00 P.M. Lecture and demonstration on Stereoscopic technic. Prof. B. W. Kelly.

Evening Program

8:00 o'clock

Cases: New Intracapsular Suction Cup. Dr. Fred S. Thorne.

Paper: Ocular Complications in Diabetes. Dr. J. Herbert Waite, Dr. William Beetham.

Discussion: Dr. Elliott P. Joslin.

Benjamin Sachs, M.D., *Secretary.*

NEW ENGLAND HEART ASSOCIATION

The next meeting of the New England Heart Association will be held in the Assembly Room of the House of the Good Samaritan, Monday, April 23, at 8:15 P.M.

All members of the New England Heart Association and interested physicians are invited to attend.

PAUL W. EMERSON, M.D., *Secretary.*

GREATER BOSTON MEDICAL SOCIETY

There will be a joint meeting of the Greater Boston Medical Society and the staff of the Beth Israel Hospital.

Time: Tuesday, April 17, 1934, at 8:15 P.M.

Place: Beth Israel Hospital, Boston, Mass.

Speaker: Frank H. Lahey, M.D., Surgeon-in-Chief, The Lahey Clinic, Boston.

Subject: The Management of Cholelithiasis and Biliary Tract Infections.

Discussion: Harry Linenthal, M.D., Maurice E. Barron, M.D., Carl Bearse, M.D.

D. B. STEARNS, M.D., *Secretary.*

THE NEW ENGLAND ROENTGEN RAY SOCIETY

The next meeting will be held at the Beth Israel Hospital, Boston, Mass., Friday night, April 20, 1934, at 8:15 P.M.

SCIENTIFIC SESSION

Dr. Samuel A. Robins will present the following program:

I. Roentgenological Changes in the Heart After Total Thyroidectomy. 10 Minutes. Dr. David Davis, Dr. Herrman L. Blumgart.

II. Protracted Irradiation in Carcinoma of the Larynx. 10 Minutes. Dr. Harry F. Friedman.

III. Report of Case of Schuller-Christian Disease. 10 Minutes. Dr. Charles Liebman.

IV. The Value of Lateral Views of the Rectum. 10 Minutes. Dr. S. William Altman.

V. Roentgenological Exploration of the Biliary Ducts with Lipiodol. 10 Minutes. Dr. Louis Hermanson.

VI. Urethrography. 10 Minutes. Dr. M. Leopold Brodny.

VII. Cystography and the Prostate. 10 Minutes. Dr. Samuel A. Robins.

Three minutes will be allowed for discussion on each paper.

The usual dinner will be held at the Harvard Club.

ISAAC GERBER, M.D., *President,*
201 Waterman Street, Providence, R. I.
THOMAS R. HEALY, M.D., *Secretary,*
370 Marlborough Street, Boston, Mass.

PHI DELTA EPSILON FRATERNITY

POSTPONEMENT OF MEETING

The meeting of the Phi Delta Epsilon Fraternity of Boston University School of Medicine previously announced for April 16 has been postponed. Further announcement will be made in a later issue.

NEW ENGLAND PHYSICAL THERAPY SOCIETY

NOTICE OF CHANGE OF TIME AND PLACE OF APRIL MEETING

The regular April meeting of the New England Physical Therapy Society will be postponed to Tuesday evening, April 24. It will be held at the Psychiatric Clinic Building, Boston State Hospital. The program will be published next week.

ARTHUR H. RING, M.D., *Secretary.*

THE MALDEN MEDICAL SOCIETY

The next meeting will be held on April 17, 1934, at Malden Electric Company Hall, at 8:30 P.M.

Speaker: Edwin Locke, M.D.

Subject: Hypertension, Its Cause and Treatment

A. H. WARREN, M.D., *Secretary.*

SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

April 12—Massachusetts Tuberculosis League will hold its annual meeting at the Hotel Statler, Boston, beginning at 11 A.M. in Parlor B on the mezzanine floor.

April 12—Massachusetts General Hospital will hold a Staff Clinical Meeting in the Moseley Memorial Building at 8:15 P.M.

April 13—William Harvey Society will meet in the auditorium of the Beth Israel Hospital at 8 P.M.

April 13—Massachusetts Memorial Hospitals. See page 828.

April 13, 20 and 27—Salmon Memorial Lectures. See page 443, issue of February 22.

April 14—New England Association of the Johns Hopkins Alumni will meet at the University Club, Boston. Dinner at 7 P.M.

April 16—Boston Medical History Club. See page 828.

April 16—Boston University School of Medicine to Conduct a Clinical Meeting at Boston City Hospital in the Cheever Amphitheatre at 11 o'clock.

April 16-20—The American College of Physicians will hold its Eighteenth Annual Clinical Session in Chicago at the Palmer House. For information write Mr. E. R. Loveland, Executive Secretary, 133-135 South 36th Street, Philadelphia, Pa.

April 17—South End Medical Club will meet at the office of the Boston Tuberculosis Association, 554 Columbus Avenue, Boston, at 12 noon.

April 17—Lawrence Cancer Clinic. See page 825.

April 17—Greater Boston Medical Society. See notice elsewhere on this page.

April 17—New England Ophthalmological Society. See page 828.

April 17—Malden Medical Society. See notice above.

April 20—New England Roentgen Ray Society. See notice elsewhere on this page.

April 23—New England Heart Association. See notice elsewhere on this page.

April 23 - May 5—Physicians' Art Exhibit at the Boston Medical Library, 8 Fenway.

April 24—New England Physical Therapy Society. See notice above.

April 27—New England Society of Psychiatry will meet at the Boston State Hospital, Dorchester Center, Mass., at 1 P.M.

April 30—The American Board of Dermatology and Syphilology. Examinations for Certificates. Address: Dr. C. Guy Lane, 416 Marlboro Street, Boston, for details.

May 3—Faulkner Hospital Clinical Meeting. See page 828.

May 14, 15, 16, and 17—Thirtieth Annual Meeting of the National Tuberculosis Association. For details apply to the National Tuberculosis Association, 450 Seventh Avenue, New York City.

May 26, 27, 28, and 29—The American Association on Mental Deficiency. Details may be obtained from the Secretary, Dr. Groves B. Smith, Godfrey, Illinois.

June 12—American Heart Association will meet at 9:30 A.M. at the Cleveland Hotel, Cleveland, Ohio.

July 24-31—The IVth International Congress of Radiology will be held in Zurich under the presidency of Professor H. R. Schniz. General Secretary Dr. H. E. Walther, Gloriastrasse 14, Zurich.

September 3-6—American Public Health Association, at Pasadena, California. Dr. J. D. Dunshee, Chairman, Local Committee on Arrangements.

September 4, 5, 6—International Union Against Tuberculosis. For information address the National Tuberculosis Association, 450 Seventh Avenue, New York City.

DISTRICT MEDICAL SOCIETIES

ESSEX SOUTH DISTRICT MEDICAL SOCIETY

Thursday, May 3—Censors' Meeting, at Salem Hospital, 3:30 P.M.

Tuesday, May 8—Annual Meeting. Salem Country Club, Forrest Street, Peabody. Dinner at 7. Speaker to be announced. Subject to be announced.

RALPH E. STONE, M.D., Secretary.
221 Cabot Street, Beverly, Mass.

FRANKLIN DISTRICT MEDICAL SOCIETY

The next meeting will be held on the second Tuesday of May at the Weldon Hotel, Greenfield, at 11 A.M.

CHARLES MOLINE, M.D., Secretary.
Sunderland, Mass.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY

The next meeting will take place in May (2nd Wednesday) at Winchester.

ALLAN R. CUNNINGHAM, M.D., Secretary.
76 Church Street, Winchester, Mass.

MIDDLESEX NORTH DISTRICT MEDICAL SOCIETY

Meeting will be held on April 25.

T. A. STAMAS, M.D., Secretary.
226 Central Street, Lowell, Mass.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY

May 3—Censors' Meeting will be held at the Boston Medical Library, 8 Fenway, Boston.

NORFOLK DISTRICT MEDICAL SOCIETY

April 18 (Note change of date)—Hotel Kenmore, 8:30 P.M. Special Business Meeting. See page 828.

May—Annual Meeting. Time, place and program to be announced.

FRANK S. CRUICKSHANK, M.D., Secretary.
1695 Beacon Street, Brookline, Mass.

NORFOLK SOUTH DISTRICT MEDICAL SOCIETY

May 3—12 noon at Norfolk County Hospital. Annual Meeting. Election of Officers.

N. R. PILLSBURY, M.D., Secretary.
Norfolk County Hospital, South Braintree, Mass.

SUFFOLK DISTRICT MEDICAL SOCIETY

April 25—Annual Meeting at the Boston Medical Library. Election of Officers. Scientific Program, titles and speakers to be announced.

The Medical Profession is cordially invited to attend this meeting.

JAMES H. MEANS, M.D., Vice-President.
GEORGE P. REYNOLDS, M.D., Secretary,
311 Beacon Street, Boston, Mass.

WORCESTER DISTRICT MEDICAL SOCIETY

Meeting to be held on Wednesday as follows:

May 9—Annual Meeting. Time and place to be announced later.

ERWIN C. MILLER, M.D., Secretary.
27 Elm Street, Worcester, Mass.

BOOK REVIEWS

The Health and Turnover of Missionaries. By WILLIAM G. LENNOX. Published by the Advisory Committee. New York City: The Methodist Book Concern, 1933. 217 Pages.

Dr. Lennox, who has long been interested in medical missionary work and has spent many years in China, has recently compiled for the Missionary Societies of America a useful statistical study, which now appears in book form. When one realizes that there are more than 29,000 missionaries in foreign lands and that during the course of a single year nearly $70,000,000 is expended for the upkeep of this service, there are many problems presented which justify investigation. It is brought out by this study that many missionaries leave their work just at the time when they are becoming valuable to the organization supporting them. In other words, to use the slang of the time, the "turnover" is very high. In order to present the facts regarding this, Dr. Lennox has tabulated and charted statistics covering a period of many years. From the medical point of view, the causes of death from infectious and tropical diseases and the large number of missionaries who withdraw from service on account of functional nervous disease are the outstanding results of the investigation. The author recommends the establishment of a central medical department with full-time physicians who would conduct examinations, direct laboratory work, and handle medical records of all the missionaries for eight or ten of the largest Boards, with offices in New York. By this method it is hoped to control the medical missionary service in a more efficient manner than has been possible in the past.

The Modern Treatment of Syphilis. By JOSEPH EARLE MOORE. Published by Charles C. Thomas, Baltimore. 535 Pages. Price $5.00.

In general, this book provides information in as simple terms as possible as to what can be done for patients with various types of syphilis and as to what results may be expected. It is written largely from a background of the author's own experience, but the work of other investigators has not been neglected. While a thorough review of literature is not attempted, important contributions are utilized, especially those of the Coöperative Clinical Group composed of the chiefs of the syphilis clinics of the University of Pennsylvania, the Mayo Clinic, the University of Michigan, Western Reserve University, Johns Hopkins University, and representatives of the United States Public Health Service. Bibliographies of source material follow each chapter.

We have here a detailed and scholarly, yet simple presentation of the best methods of treatment and their attainable results, which should interest general practitioner and specialist, from the pen of a well-known investigator, an able teacher and clinician.

Les Troubles de L'Elimination Urinaire de L'eau. By JULES COTTET. Published by Masson et Cie. 260 Pages. Price 32 fr.

This book on the physiologic, pathologic, and clinical study of water elimination in renal disease offers nothing new to the internist. If the author of this work attempted to clarify the maze of contradictory work in this field and apply some of it practically, the reviewer feels that he has surely failed. As a matter of fact Widal and his associates many years ago reviewed the subject very thoroughly.